

Policies

I. Natural Resources

Dulles South is home to some of the County's most valuable resources including diabase (rock used for a variety of construction purposes) and the Bull Run which feeds the Occoquan Reservoir, a major regional water supply. These are resources of significant economic value. The Bull Run is also a potentially important scenic and recreational resource. Approximately 65% of Dulles South lies in the Occoquan watershed, making the planning area subject to State policies aimed at protecting both the Occoquan Reservoir and the Potomac River. The high rates of nitrogen, phosphorous and BOD (Biological Oxygen Demand) removal demanded by these policies require the use of advanced wastewater treatment systems. This disqualifies most on-site and package treatment systems that might be used by area residents to replace failing septic systems.

Stream corridors and floodplains are also important local features that influence the area. There are a number of tributaries to Bull Run and Broad Run that are associated with major floodplains. A significant area of Dulles South is classified as having hydric soils, an indicator of wetlands. These areas, along with floodplains and streams, are valuable for water quality protection, animal habitat and stormwater management. In urban or urbanizing areas, these areas are equally important as scenic open space, recreational land and development buffers.

A large portion of Dulles South is covered by predominantly hardwood forest but, there is little lumbering activity. These forested areas are another resource that will play an increasingly important role as Dulles South is developed. Forests assist in water quality protection, stormwater management, climate control and animal habitat. Along with stream corridors and floodplains, they can buffer different land uses and otherwise contribute to the visual quality of the area. Because of historic clearing and farming, forests in Dulles South are more linear and form edges around farmland. This offers natural screening and definition to the design of new communities.

There are a number of sites that have been surveyed by the Virginia Landmarks Commission but none have been put on the Virginia Historic Landmarks Registry (see the DSAMP's companion background document - Existing Conditions Report, page 10). So far, these sites have not faced

development pressure that places them at risk. Citizens expressed a desire to protect the historic and cultural amenities of the area. However, protection of natural features clearly took a secondary position to concerns about water, sewer and roads. Natural features were discussed most often as part of the community character. Farmland, forests and streams are valuable natural features that add to their quality of life. It was suggested that the County should set a specific level of open space to be preserved in the area.

Dulles South seems to reflect current County and state trends. As the *Farms of Loudoun Directory* shows, farms in the area produce a wide variety of products. Products such as christmas trees, hay and sod seem to be suited to the area's soils and conditions. Although specific comparisons are not available, less than ideal soils mean that Dulles South is not as significant an agricultural area as western parts of the County. However, voluntary programs such as use value assessment, extension services and County agricultural programs are supported and similar new programs are to be sought. The Dulles South plan continues the County's support of Right To Farm policies because citizens of the area feel that operating farms are an important part of the community character. They believe that the viability of such farms should be protected and new development should be planned to minimize potential conflicts.

Policies

1. The County supports and continues current *General Plan* policy with regard to the protection of key natural and cultural resources.
2. Environmentally hazardous uses should be addressed through current local, state and federal regulations.

II. Economic Development

Future economic development decisions in Dulles South should target the goal of creating a balanced residential and business community. Dulles South residents first want the area to become a good place to live and raise children. They then want their children to have the opportunity to live and work in the area. To achieve this, the economic development strategy for Dulles South uses the opportunities provided by the Route 50 corridor and Washington Dulles International Airport to overcome disadvantages created by major surpluses in industrial and business space in Loudoun and Fairfax Counties. The plan outlines a development approach which seeks to unite residential and business uses into sustainable mixed use developments aimed at creating an enjoyable and affordable community setting.

Washington Dulles International Airport

The single most important economic asset in Loudoun County is Washington Dulles International Airport. Approximately 30% of Loudoun's

at-place employment is directly attributable to the Airport or to firms directly dependent upon the Airport. The Airport currently employs 11,000 people. At buildout there will be approximately 60,000 employees. The Airport generated \$314 million dollars in employee salaries and \$1.768 billion in business revenues for the region in 1990. Between 1985 and 1989, passenger figures rose from 5.0 million to approximately 10.0 million. The ultimate capacity of the facility is 55 million passengers.

The Airport Master Plan calls for substantial increases in both air service and facilities over the next 20 to 40 years. Within 20 years, two new runways will be added, including a north-south runway parallel to the existing north-south runway and an additional east-west runway to be located immediately south of the existing east-west runway. Information provided by the Metropolitan Washington Airports Authority and the Washington Airports Task Force indicate that Dulles Airport will handle over 20 million passengers by the year 2000.

Area residents recognize the value of the Airport to Dulles South. It is considered to be both the greatest strength and the best opportunity for the future development of the area. Residents support continued protection and increased development of the airport.

Based on these citizen comments, the Dulles South plan calls for continued protection of the airport through land use controls. It also proposes that the Dulles South area take advantage of an opportunity to become home to industries that can service the Airport. Currently there is little land in Loudoun County available for small service industries that provide essential support to the Airport. Much of the land to the northwest and east of the Airport is currently designated for office and research uses. The Dulles South plan proposes to encourage the development of service industries and businesses. In doing so, Dulles South avoids "head to head" competition with other, developed, areas; creates an opportunity for industries that are being forced out of other areas because of market pressures; and creates a potential job market for a variety of skills.

Washington Dulles International Airport will attract related businesses and services to the Dulles South Area.

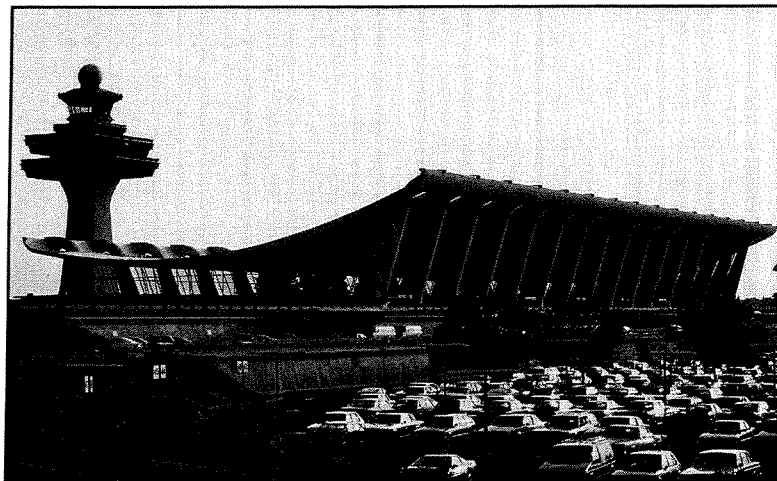


Photo by George Kousoulas

Policies

1. Business uses that will support the development of Dulles Airport to its ultimate capacity and maximize the County's economic benefit from the airport will be encouraged to locate within the 65 Ldn (Loudness day/night average) noise contour and in proximity to the airport. Such uses may include, but not be limited to, aircraft service and supply industries, passenger service businesses and cargo distribution industries. Where such uses are proposed within the Route 50 corridor, they shall comply with the design policy and objectives of this Plan for the corridor.

2. The County's land use policies should continue to protect the Airport from conflicting land uses by prohibiting new rezoned residential development within the Ldn 65 noise contour and requiring noise attenuation measures in construction, aviation easements and full disclosure requirements, in accordance with the following:

a. For all new residential dwelling units to be constructed outside of, but within one (1) mile of the Ldn 60:

The applicant shall disclose in writing to all prospective purchasers that the property is located within an area that will be impacted by aircraft overflights and aircraft noise. Such notification will be accomplished by inclusion of this information in all sales contracts, brochures and promotional documents, including the *Illustrative Site Plan(s)* on display within any sales related office(s), as well as in Homeowners' Association Documents, and by inclusion on all subdivision and site plans, and within all *Deeds of Conveyance*.

b. For areas within the Ldn 60-65 aircraft noise level:

i. Full Disclosure statement: For all new residential dwelling units to be constructed within the Ldn 60-65 aircraft noise level:

The applicant shall disclose in writing to all prospective purchasers that the property is located within an area that will be impacted by aircraft overflights and aircraft noise. Such notification will be accomplished by inclusion of this information in all sales contracts, brochures and promotional documents, including the *Illustrative Site Plan(s)* on display within any sales related office(s), as well as in Homeowners' Association Documents, and by inclusion on all subdivision and site plans, and within all *Deeds of Conveyance*.

ii. Acoustical Treatment for all **new** residential units located within the Ldn 60-65 aircraft noise level:

The applicant shall incorporate acoustical treatment into all dwelling units to ensure that interior noise levels within living spaces (not including garages, sunrooms, or porches) do not exceed a sound level of 45 (db)A (decibel average).

iii. Avigation Easements:

For all **new** residential dwelling units to be constructed within the Ldn 60-65 aircraft noise level: Prior to, or in conjunction with, the approval of a rezoning application, the applicant of a parcel or parcels contained within the Ldn 60-65 aircraft noise impact area associated with Washington Dulles International Airport should proffer the dedication of avigation easements to the Metropolitan Washington Airports Authority, indicating the right of flights to pass over the property, as a means to securing the long-term economic viability of Washington Dulles International Airport.

3. The County encourages the continued maintenance and enjoyment of existing dwellings within the 65 Ldn. Such existing homes are exempt from the County noise policies.

4. The construction of new dwellings within the 65 Ldn noise contour is discouraged; however, construction that is in accord with existing zoning and that complies with applicable County requirements shall be permitted.

Route 50 Corridor

Route 50 is a four lane divided highway from the Fairfax County line to six miles to the west, where it becomes a two lane section. Current plans are to extend the four lane section to 1/2 mile east of Gilbert's Corner (Route 15). An average of 15,000 trips are made on the road each day (ADT). The County and Virginia Department of Transportation (VDOT) are currently preparing a Route 50 corridor plan that proposes that the road become a limited access highway with grade separated interchanges and parallel service roads.

Most of the area's nonfarm businesses are located along Route 50. Typically these are small companies offering construction, landscaping or equipment repair services. Retail operations are limited to convenience goods or farm and construction related products and equipment. Concern was expressed by some residents that the existing small businesses would be hurt by the influx of new development. They feared that costs would rise, new residents would complain of noise or visual problems and other things would arise to make small business operations in the corridor more and more tenuous. Residents recognize that the current land use and zoning pattern along the highway is not the preferred, ultimate development pattern. Although a change is desired, most people do not want to endanger existing land uses. Therefore, the Dulles South plan encourages development which mitigates negative impacts on adjacent properties in the Route 50 corridor. Where possible, existing uses should be incorporated into new projects. The Plan suggests that potential conflicts can also be resolved by separating uses, providing extensive buffering or diverting associated traffic, signs or other activities away from existing uses.

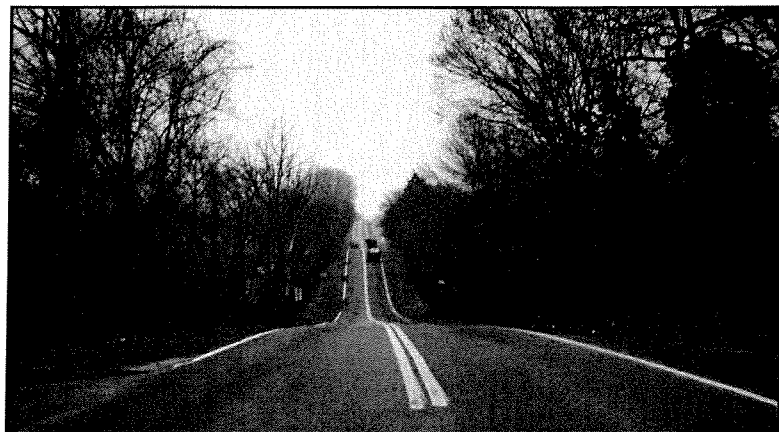
Route 50 can play a dual role for the County. It forms the southern perimeter of Dulles Airport and the area recommended to be an Airport Enterprise Zone (Economic Development Task Force, March 1992) wherein airport and air travel related uses are given priority by the County. Its second role is that of a gateway corridor leading to the County's famous hunt country. As one of only two existing east-west connectors leading to the Washington Metropolitan area, it is important to maintain a high level of design quality to reflect the image the County wants to extend to potential residents and employers.

Workshop participants supported the development of Route 50 as a gateway entrance to Loudoun County. Gateway design features typically include extensive landscaping, deep building and parking setbacks from the highway, road improvements to minimize traffic disruption, limited use of signs, and on-site screening and buffering to hide activities such as outside storage and loading. In Dulles South, such standards will be implemented through the rezoning process to ensure that existing properties along the highway maintain their development viability. Developments such as the Avion and Lafayette business parks (located on Route 50 in Fairfax County) are viewed as desirable developments. Heavy industry, on the other hand, is not desired along the highway frontage but may be located elsewhere in the corridor, buffered by other uses, appropriate landscaping or other means.

Other major highways in Loudoun County, Route 7, Route 28 and the Dulles Toll Road Extended (DTRE) are defined as the principal locations for "keynote employment" uses. These are the campus style office and research developments such as University Center, Lansdowne, Magnavox and Loudoun Tech Center. Unlike these areas, Route 50 is proposed to develop as a light industrial, mixed use commercial, and office corridor. This strategy may open Route 50 to a different development market. Permitting a mix of land uses while protecting the road's function as a limited access highway will require careful attention to design details such as signs, driveways, parking, setbacks and landscaping.

The Dulles South plan proposes a strategy for the corridor that includes land use guidelines developed in concert with the transportation network plan. Development review criteria and incentives such as density bonuses are also proposed to encourage the preferred land use.

Route 50, the spine of the Dulles South area, will develop as a mixed use light industrial, office and residential corridor



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1. The Route 50 corridor is to be developed as a “gateway corridor” to Loudoun County and as such should provide a visual experience commensurate with the high quality natural and built environment that is the basis for the County’s economic development strategy. Development within the corridor should seek to do the following:

- a.** Create a parkway road corridor along Route 50 through landscaping and building/parking setbacks;
- b.** Promote coordinated traffic movement by reducing the number of new driveways on Rt. 50 and by using alternative roads for access;
- c.** Encourage compatibility between the activities on adjoining properties through complementary architectural design, buffering, landscaping and spatial separation;
- d.** Create within individual developments, the impression of a comprehensive design scheme through such devices as shared driveways, complementary architectural appearance, common landscaping and signs, and other means.

2. The Plan supports rezonings which promote the Route 50 corridor as a GATEWAY CORRIDOR and which include at least the following features:

- a.** A design concept which makes the building the prominent feature when the site is viewed from Route 50 and which uses landscaping and berms to screen associated activities such as parking, loading, and outside storage and assembly;
- b.** Minimal use of signs;
- c.** Landscaped building setbacks of at least 100 feet from Route 50 except in areas zoned CLI, where CLI setback policies shall apply. This setback may be reduced if landscaping is enhanced to further screen parking and other activities and to promote the parkway design objectives of the Plan;
- d.** Front yard landscaping that complements and enhances the appearance of buildings; visually screens parking, loading and similar activities; and provides a substantial vegetative edge along Route 50; and
- e.** Minimal interference with traffic flow on Route 50 by limiting the number of driveways, offering access to another public road and otherwise exhibiting support for the ultimate conversion of Route 50 to a limited access highway.

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3. The Route 50 corridor is generally defined by the area between the proposed north and south parallel roads. All properties within this corridor shall seek to comply with the design guidelines established for the area.
 4. The Route 50 corridor should develop as mixed use residential, commercial, light industrial and office uses generally conforming to the use mix set out in the Light Industry Area policies.
 5. New development should address impacts on adjacent properties in the Route 50 corridor by separating conflicting activities, providing extensive buffering, or other means.
 6. In considering development proposals in the corridor, the Board may choose to permit increased densities, a change in the land use mix which differs from that set out in the Light Industry Area, or modifications to setback, height or other zoning standards where such flexibility results in exemplary design and fulfills the Plan's objectives for the Route 50 corridor.
 7. In the designated Residential Community along Route 50, the County encourages the consolidation of small lots into larger, unified development proposals.

Development Incentives

The County currently operates a Commercial and Industrial Development program through the Department of Economic Development. The principal focus of the Department is attracting new businesses to the County and supporting the expansion of existing businesses with the goal of increasing the non-residential proportion of the County's real estate tax base. The Department conducts promotional activities such as advertising and trade shows, assists businesses in site selection, provides demographic and other support data to the business community, monitors government and regional economic development activities and supports long range planning activities in the County.

With the adoption of the area management plan, Dulles South becomes an appropriate location for new development. As such, the Plan calls for the County's economic development programs to be applied equally in Dulles South and other urban areas.

Faced with local and regional competition, the County should offer flexibility in the development process to prospective businesses. Development review costs, increasing constraints on site design and other similar matters are increasing the cost of doing business. For service uses, typically smaller businesses faced with unique operational demands, such costs and constraints may be a major location deterrent. The Dulles South Plan proposes flexibility and a proactive stance on the part of the County to assist appropriate employment uses.

The National Air and Space Museum is proposing to expand its facility to a site located at the southwest corner of Dulles Airport approximately 1.25 miles east of the Loudoun-Fairfax County line. The site has a total of 185 acres. The principal access to the site would be Barnsfield Road which intersects Route 28 (Gate 4 entrance to the Airport) while Route 50 offers a secondary access. To take advantage of this economic opportunity, the County should coordinate the marketing activities of existing tourist attractions in the area and link them, as much as possible to the Museum Extension. The County should also make every effort to ensure that the driving experience along Route 50 is safe, convenient and enjoyable for visitors. Finally, the County should be flexible in terms of land use, density and design in order to respond to new opportunities as they arise.

Policies

1. The County will seek ways of facilitating the development of service industries. The Plan supports the use of increased density or changes in land use mix where such incentives result in development that features exemplary compliance with County land use and community design and economic development objectives.
2. The County should investigate the feasibility of other types of economic development incentives such as enterprise zones, tax free zones, special taxing districts and revolving loans.
3. Dulles South should be given equal priority in County marketing efforts.
4. The County should consider density, land use mix, reduced development costs and other incentives on a Countywide basis as a means of attracting development.
5. The County supports the development of the National Air and Space Museum Extension at Dulles Airport and encourages the use of Route 50 as a principal access to the facility.
6. The Plan supports the use of increased density, changes in land use mix, and the introduction of new, tourism related uses in the business communities within the Route 50 corridor, where such incentives are shown to enhance the Museum Extension and increase the volume of visitors from the Museum to Loudoun County. Proposed developments should also illustrate exemplary compliance with other County land use, community design and economic development systems.

III. Sewer and Water

The single greatest constraint to urban or suburban development in the Dulles South planning area is the lack of central water and wastewater treatment facilities. Providing central sewer and water service to the Dulles South area is not difficult from a technical standpoint, but finding a feasible way to fund and phase needed improvements is difficult. In addition to concerns about future utility service in Dulles South, there is an immediate concern about how to address health problems associated with existing substandard, on-site sewage systems. The policies in The Dulles South Area Management Plan address the technical and financial aspects of providing central sewer and water service to the area as well as public health concerns associated with existing systems.

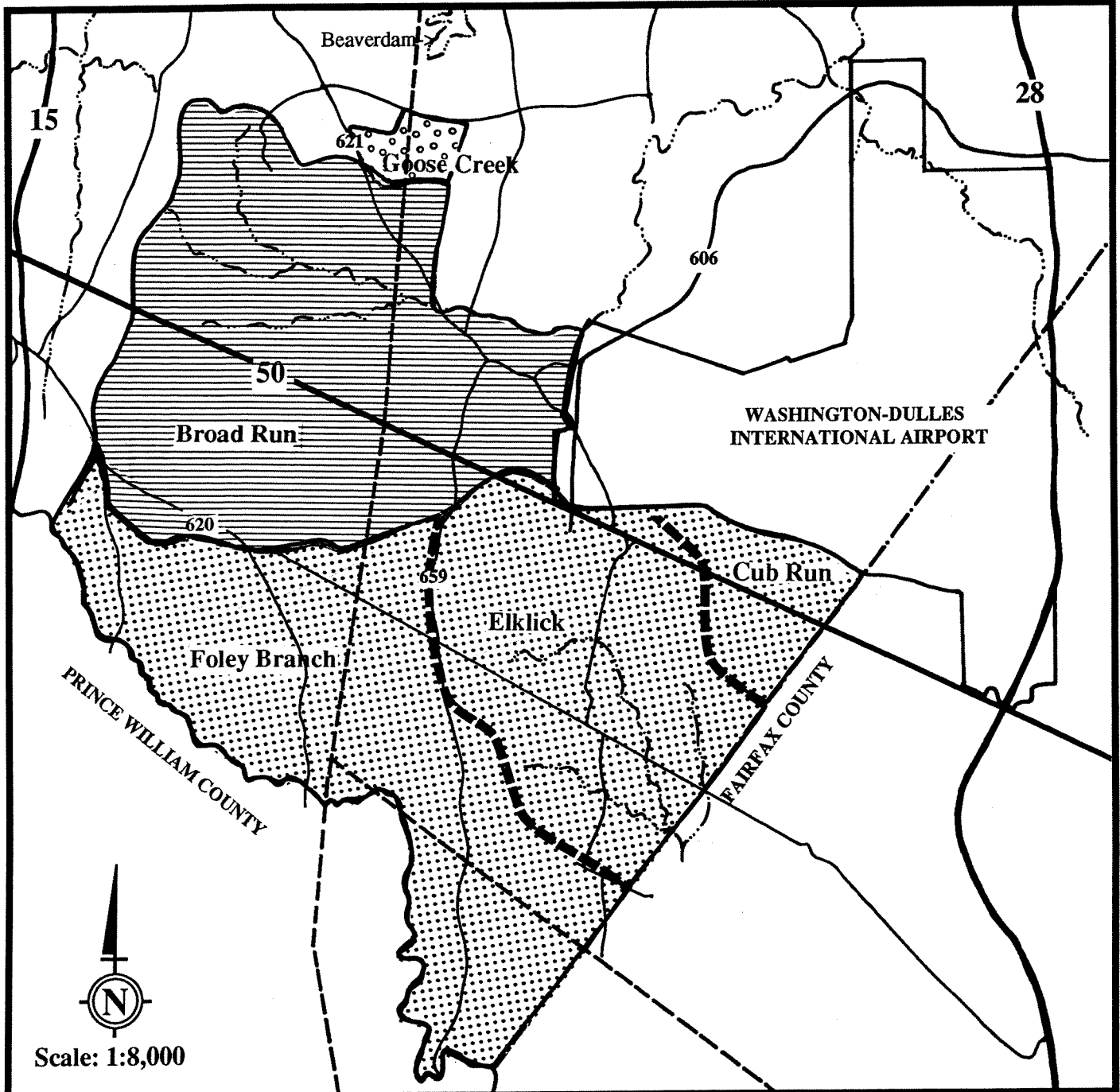
Existing Health Problems

As stated in the *Dulles South Existing Conditions Report*, the Dulles South area is plagued with on-site septic problems, first recognized when the County Health Department was created in the mid 1940s. The most recent and detailed study of failing sewer systems in Dulles South focused on the Elklick Run Watershed and was conducted by the County Health Department in 1989. The report included Countywide statistics as well as statistics for the Elklick Run Watershed. According to a report published in October 1988 by the Virginia Water Project, Inc., approximately 36% of all houses in Loudoun are served by on-site treatment systems and 3.3% of these systems are estimated to be malfunctioning or substandard. It is estimated that only 25% of these failures are correctable with present on-site technologies.

Based on information gathered by the Health Department, less than 2% of the soils in Elklick Run Watershed (see Watershed Map, Figure 3, page 19) were considered to have better than "severe limitations" for septic tank use. Of the estimated 164 homes in the Elklick Run area, 62% are depending on failing or substandard facilities. In 1989, the Health Department estimated that none of these systems were correctable with present technologies and state regulations. It is probable that problems similar to those found in the Elklick Run area are prevalent throughout Dulles South. However, acceptable and cost effective alternatives for addressing on-site problems are severely limited due to soil constraints and environmental regulations.

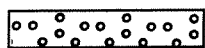
Participants in the Dulles South workshops felt very strongly that the problems of existing residents must be addressed by the County. Many citizens felt the County should pay for hook-ups for existing residents. Several comments stated that improvements made to allow for new development must benefit existing residents as well. A couple of participants did not support a mandatory hook-up policy for existing residents. Taking these comments into account, the Citizens' Committee developed policies aimed at balancing public health needs with those of individual property owners.

Dulles South Planning Area Watersheds

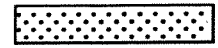


Watershed Boundaries

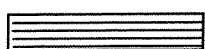
Goose Creek



Occoquan



Broad Run



Sub-watershed Boundaries

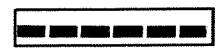


Figure 3.

Policies

1. The County recognizes that inadequate residential well and septic systems in Dulles South pose significant public health problems. Therefore, the County may provide monetary and non-monetary incentives to extend additional sewer and water lines to service private residences with failing systems. These incentives may include, but not be limited to, credit toward capital facilities or affordable housing proffers (see proffer guidelines).
2. Individual landowners and homeowners will be responsible for repairing malfunctioning or failing on-site wastewater treatment systems. However, the County may assist in providing or seeking financial assistance to property owners to resolve on-site treatment problems provided that the public is protected from incurring the costs of correcting a failed private system. Such assistance might include, but not be limited to, a revolving loan fund or other reimbursable funding mechanisms to assist individual landowners fund on-site system improvements, repairs or hook-ups to central utilities.
3. The County will require mandatory hook-ups to central utilities for existing residential and non-residential structures at such time as central utilities become available within 300' of the structure if the structure is served by a malfunctioning on-site wastewater system.

Water and Wastewater Treatment Systems

As previously noted, soils in the Dulles South planning area are generally unsuited for development on septic systems and wells due to a high water table, shallow depth to bedrock and clayey shrink-swell characteristics. Residential development at a suburban scale or even at rural scale (one unit per three acres) and non-residential development that would require on-site facilities, are nearly impossible in most of the planning area due to these soil limitations and public health standards regulating septic fields and wells. From a public health standpoint, new residential development at suburban or urban development densities would need some sort of public sewer and water service.

Options for development using alternative wastewater treatment systems in the Dulles South planning area are severely limited by State Water Control Board (SWCB) policies aimed at protecting the Occoquan Reservoir, the primary source of drinking water for Fairfax County. Three of the four subwatersheds of Dulles South (all except Upper Broad Run) drain directly to the Occoquan Watershed. Policies were adopted by the State Water Control Board in the 1970s and updated in the 1980s to limit point source pollution and non-point source pollution in the Occoquan Watershed. These policies specifically limit the number and types of new wastewater treatment systems that can be constructed in Dulles South.

The use of alternative on-site wastewater treatment systems is also limited. On-site systems that could be used for residential development

include mound systems, portable toilets, incineration toilets and composting toilets. Although use of these systems would be permitted under Virginia Health Department regulations, they are generally intended as a means of correcting an existing problem or for use on a case by case basis, rather than as a way to serve large scale new residential development.

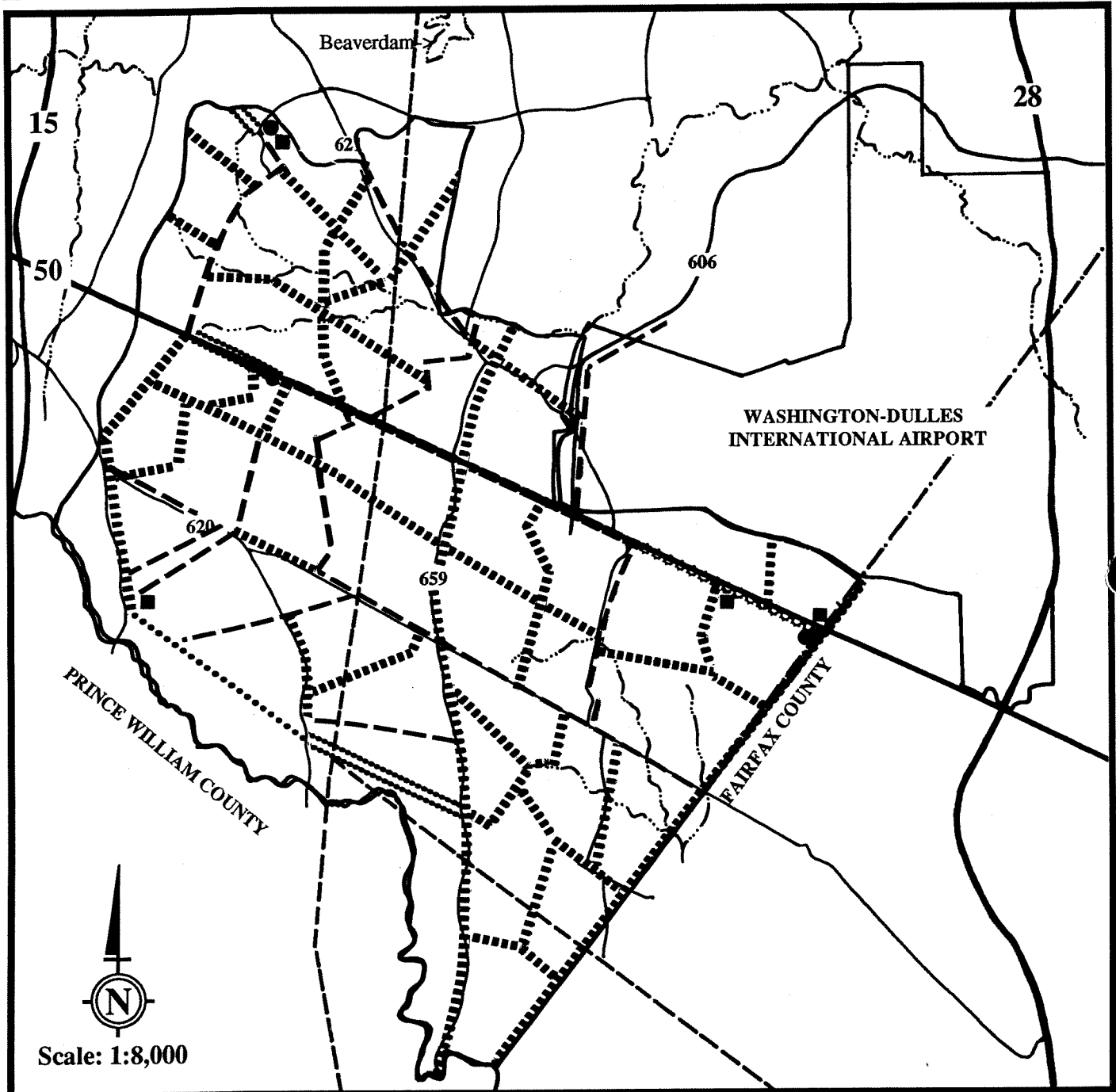
The provision of water to the Dulles South area is also a concern. Current residents of the Dulles South planning area depend on individual wells for water service. From a public health standpoint, the County encourages the use of central water supplies in urban areas rather than individual systems to reduce the potential risks associated with ground water contamination. This is of particular concern in areas where on-site septic systems are used. Although rock formations in the Dulles South area are capable of producing enough water to serve individual houses, and possibly even community wells, central service would be preferred for new development at suburban or urban densities.

The use of community wells or individual wells could be explored as an interim option for small scale development, particularly if central sewer service is available. However, because the provision of central water service to Dulles South is expected to be less costly and less complicated than sewer service to the area, central water service is more likely to be available before or at the same time as central sewer service.

Citizens who attended the community workshops in Arcola had several concerns about sewer and water service in Dulles South. Of particular relevance was citizen support for General Plan policies stating that new development should be served by central sewer and water services. In addition, citizens felt that any services extended by the development community to serve new development should also benefit existing residents. Although alternative systems and interim solutions were not specifically addressed, citizens did express concerns about environmental regulations limiting sewer options and a lack of creative solutions for existing health problems.

The Dulles South plan promotes the extension of central utilities into Dulles South; however, the plan recognizes that development in Dulles South will be based on the availability of funding for sewer and water line extensions, market demand and physical construction constraints. At present, it appears that development in Dulles South will begin in two locations, the Cub Run/Elklick Run area and the Upper Broad Run area. If the County successfully pursues interim capacity agreements with Fairfax County, development could occur in the eastern portions of Cub Run and Elklick Run in the near term at a relatively reasonable cost. Development in Upper Broad Run will depend on when the Broad Run Interceptor is funded and constructed. Until such time as central utilities are available, the plan provides some options for development using on-site systems.

Dulles South Planning Area Current LCSA Water Plans



Water Distribution System

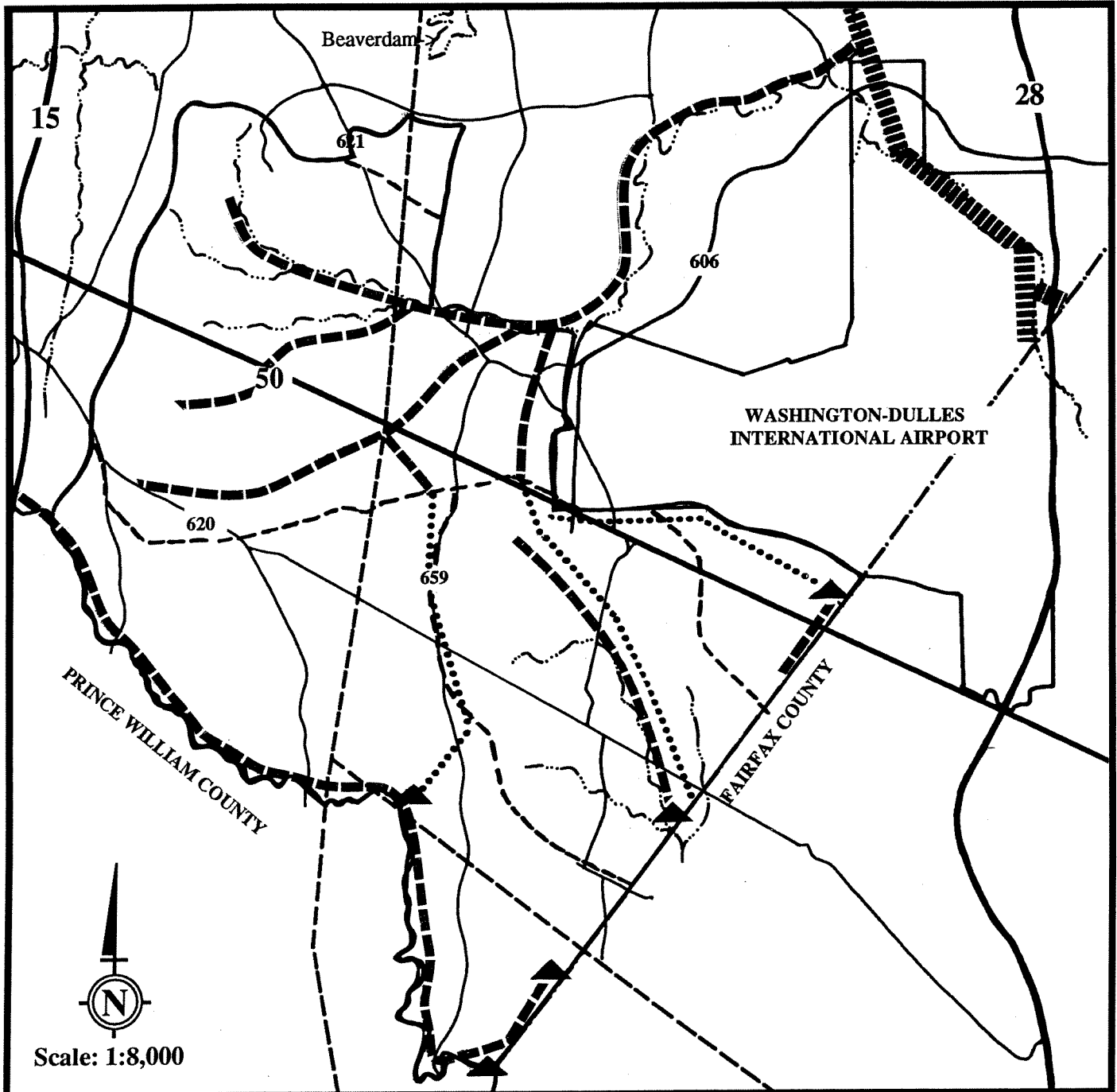
12" line
 16" line - - - - -
 20" line
 24" line

30" line
 36" line
 Pump Tank ●
 Tank ■

Note 1: These maps are generalized. Site specific land use proposals will be revised in the context of all pertinent policies in this plan, as well as these maps

Figure 4.

Dulles South Planning Area Current LCSA Sewer Plans



Force Main

Gravity Sewer ————

Pump Station ▲

Sub-watershed
Boundary ————

Potomac Interceptor ▤▤▤▤▤▤

Figure 5.

Policies

- 1.** The entire Dulles South planning area is planned for central sewer and water service (see Figures 4 and 5, pages 22 and 23) and phasing of development is not proposed. However, due to the nature of utility line financing and construction, the County anticipates that portions of the planning area nearest existing development and facilities will develop first.
- 2.** In order to protect the existing development potential of current residents and property owners in the Dulles South area, the use of individual wells and conventional on-site sewer systems will be allowed as a means of serving new residential and non-residential development as permitted by Zoning Ordinance and Health Department regulations.
- 3.** Conventional on-site systems may also be used to allow the expansion of existing residences and businesses in the Dulles South area provided all health department regulations can be met and provided that the use of such systems is permitted under current zoning district regulations that apply to the property.
- 4.** All new residential and non-residential development in the Dulles South planning area, except as specified in policy 5 below, must be served by central sewer and water service if the property cannot adequately be served by conventional on-site facilities and/or if the property undergoes rezoning to allow for increased development potential.
- 5.** All new light and general industrial development and all existing zoned commercial properties in the planning area must be served by central sewer and water service or an alternative wastewater facility such as pump and haul, with the approval of the Loudoun County Sanitation Authority and Health Department in accordance with LCSA and Health Department policy, if the property cannot be served by conventional on-site facilities. However, use of an alternative system will be viewed as an interim sewer option and any applicant seeking a rezoning will be required to demonstrate a commitment to funding and constructing an appropriate share of the proposed permanent central sewer system.

6. Once central utility lines are available within 300' of a structure or 100' of a property line, the landowner must hook into central utility lines and the County will encourage property owners to discontinue the use of alternative and on-site treatment systems.

7. The use of alternative, communal or interim wastewater treatment systems may be permitted to resolve an identified public health problem associated with an existing business or residence if no other treatment option is available. The proposed alternative must be reviewed and approved by the Health Department on a case by case basis.

8. All central sewer and water lines shall be sized and designed to serve the existing villages (i.e., Arcola, Lenah and Conklin) in the Dulles South Planning Area.

Utilities Management

The Loudoun County Sanitation Authority (LCSA) was created in 1959 for the specific purpose of providing sewer and water service to unincorporated areas of Loudoun County. For this reason, the County depends on the LCSA to plan for future sewer and water service and/or to enter into service agreements with other jurisdictions as appropriate. The LCSA, as the County's service provider, would have to agree to allow some other entity to provide sewer and water within its designated service area. It is imperative then that the LCSA be involved in any plans to provide sewer and water service to Dulles South.

In 1986, the LCSA, in coordination with the County, prepared a study evaluating various options for providing sewer service to Dulles South. For a variety of regulatory, environmental and political reasons, construction of a new wastewater treatment plant in the Broad Run Watershed was determined to be the most feasible and cost effective means of providing long term sewer service to Dulles South. Use of the Upper Occoquan Sewage Authority (UOSA) plant as a long term solution was ruled out, because, among other reasons, of the uncertainty of getting approval from Fairfax County to run sewer lines through portions of that County that are not slated for sewer and water service. Additionally, continued use of either the Blue Plains facility or UOSA would mean that Loudoun would continue to rely heavily on other jurisdictions to serve Loudoun's needs.

The LCSA has recently stated that it may be possible to negotiate with Fairfax County for some limited (100,000 to 300,000 gallons per day) interim capacity in the UOSA plant to serve a portion of Dulles South. At present, Fairfax County sewer lines extend to the Loudoun County line on Route 50, adjacent to the Cub Run planning area in Loudoun. Although this line could be extended to Loudoun to provide interim capacity to some properties, it is not sized to accommodate large portions of the planning area.

In 1988 and 1989, the LCSA prepared a plan for providing water to Dulles South as well as to other parts of the County. This plan proposes that

the County continue to purchase water from the City of Fairfax and the Fairfax County Water Authority. The LCSA is currently participating in a joint venture with Fairfax County to construct a 36" water main along Route 50. This water main would serve as the backbone of a water distribution system for Dulles South and will eventually tie into the water system serving Dulles North. Construction of water line extensions from the north will depend on how quickly development takes place in the Route 606 corridor. While many citizens at the Arcola workshops favored the LCSA as the long term service provider to Dulles South, others favored pursuing negotiations with the Upper Occoquan Sewage Authority. Many viewed this as a cheaper and/or quicker means of getting sewer and water service to Dulles South. The following policies are intended to maintain flexibility in the provision of utilities to the Dulles South area.

Policies

1. The Loudoun County Sanitation Authority (LCSA) will be the long term sewer and water service provider to the Dulles South planning area.
2. The County will encourage the LCSA to pursue the most timely, efficient and cost effective means of providing central sewer and water service to Dulles South. The County will also encourage the LCSA to pursue negotiations with neighboring jurisdictions and the Upper Occoquan Sewage Authority to provide long and/or short term central utility service to Dulles South.

Construction and Funding

The County has traditionally relied on either the federal government or the development community to construct and fund utility line extensions. State and federal funding for sewer and water projects that was available in the 1960s and 1970s has been virtually eliminated and is an unlikely future funding source. In the 1980s, over 80% of the improvements and extensions to the County's central sewer and water facilities were financed by the development community. The LCSA reimburses developers for these upfront improvements as users hook into the system. Because of the expense of extending utilities to Dulles South (over \$14 million to construct a new interceptor to Route 50, not including pump facilities and the collection systems needed for the various watersheds) and the banking crisis, the development community will have difficulty financing improvements through conventional methods. As traditional funding sources for utility extensions become more remote, new funding mechanisms are beginning to emerge. Developer consortiums and sanitary districts are two potential funding sources for utility improvements in Dulles South.

Residents of Dulles South want the County to be a positive partner in bringing sewer and water service to Dulles South. As previously stated, many believed that the County should fund the extension of utilities to Dulles South. In the past, the County has not provided incentives for the extension

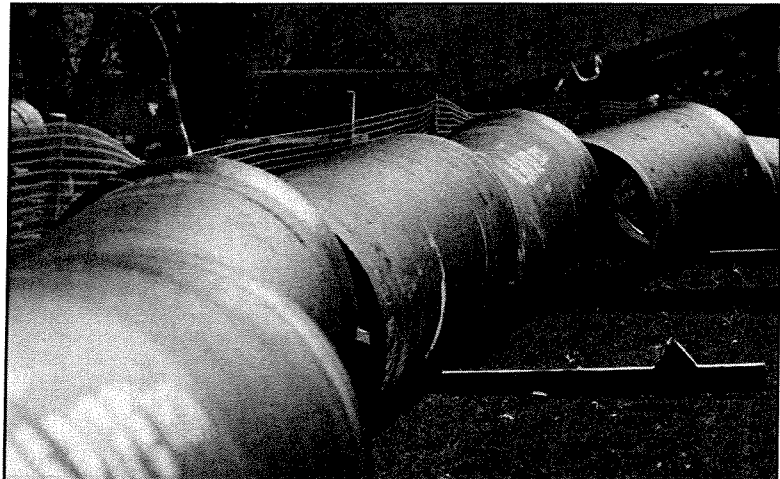
of utility lines except through the land use process. Because public health is deemed to be a priority in the Dulles South area, the Dulles South plan recommends monetary and non-monetary incentives to encourage the development community to extend utilities into Dulles South. The plan also recommends that the County assist in funding regional or other facilities that will help to address any identified public health problem.

In an effort to aid in sharing the costs of utility extensions to the Dulles South planning area, the LCSA in coordination with the Loudoun County Board of Supervisors, has agreed to participate in funding construction of the sewer interceptor that is planned to provide service to the area. The LCSA has agreed to provide \$3.0 million to assist in constructing the sewer trunk line. The contribution represents the cost differential between construction of the required 72" line, which is a major regional facility, and the equivalent of a 42" line. This commitment is intended to bring the financing of the Upper Broad Run trunkline in line with previous sewer line improvements that were financed by the development community in Dulles North and Eastern Loudoun.

Policies

1. Construction of regional sewer and water facilities in the Dulles South area should be financed jointly by the public and private sector through developer contributions and innovative funding techniques (including but not limited to special taxing districts) and with County participation.
2. Non-regional facilities and improvements will continue to be financed by the development community.
3. The County may provide monetary incentives to landowners and residents to extend central utility lines into Dulles South to resolve identified public health problems or to meet a specific public purpose identified by the Board of Supervisors through the County's Capital Improvement Program or by specific Board resolution.

New development in Dulles South will be served by central sewer and water facilities.



IV. Development Strategy

The Dulles South community wants to become a suburban and urban community and in the words of one resident "... move into the 20th century". To accomplish this change, the land use strategy of the DSAMP refines the County's mixed use community and traditional design concepts to create a responsive and affordable land use pattern. Emphasis is placed on existing residents to ensure that as the area develops, their needs are reasonably addressed. The plan continues to encourage the creation of distinct communities with identifiable centers and a mix of appropriate residential, civic, commercial and employment uses. The underlying goal of the development strategy is to create a balance between residential and business land use needs. Both suburban and traditional design concepts are appropriate in Dulles South. Higher densities and the mix of uses should give the developer the opportunity to respond to short term market demands without giving up the integrity of the long term project.

Existing Neighborhoods

Dulles South residents who participated in the community workshops felt that existing homes need to be protected. Their overall support for growth in Dulles South is contingent upon that growth enhancing the level of services and amenities to the existing residents. At the same time, people were concerned about the impact of growth on the visual and social quality of their area. To address this concern, new development must minimize the potential physical impacts on existing uses and complement existing development.

There is always community friction associated with new families moving to an area as they usually have different expectations of how the area should develop. This increasing loss of privacy and the feeling that original residents are no longer in control of the area is an important loss to the area's quality of life. The Dulles South Area Management Plan proposes that new development address this issue through sensitive design and by involving residents in the development review process. New development should provide adequate buffers to protect against visual conflicts between existing and new homes and should cluster new units to preserve natural areas and scenic vistas. The Plan also intends to involve existing residents in the development process, particularly when planning new street entrances, stormwater detention facilities and other activities associated with new subdivisions. This involvement is not intended to dictate approval or denial of a proposed development, but to involve and inform residents and help address design concerns. Further, the Plan proposes incentives to developers to encourage the extension of utilities and provision of facilities to serve existing residents.

The Village of Arcola, despite being the largest community and the location of existing public facilities (fire station, post office, community center), is located within the 65 Ldn noise contour (the level at which noise

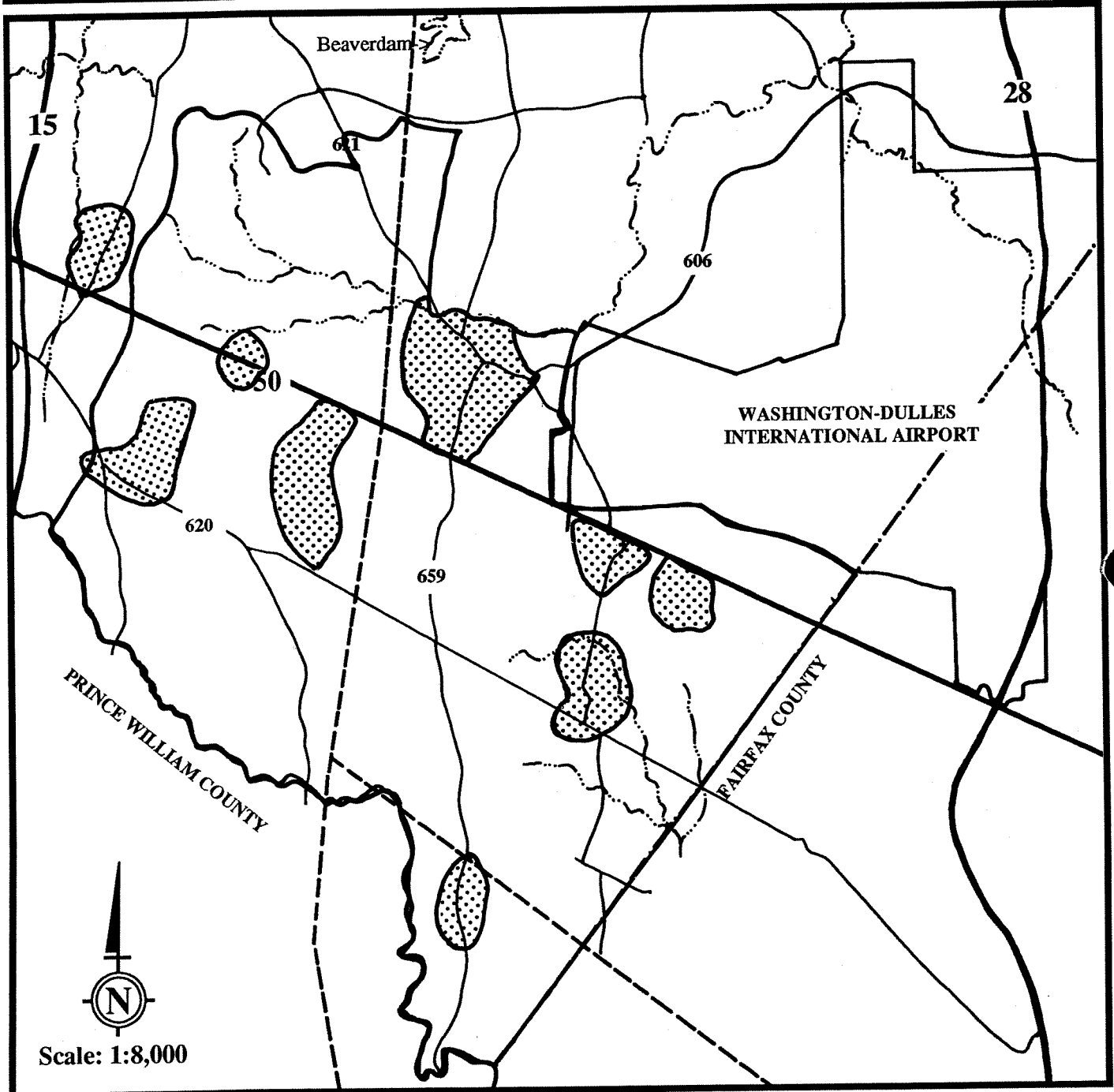
begins to significantly affect residential activities adversely). Accordingly, such new residential development is prohibited over a large part of the area. The General Plan proposes that the Village become an industrial or business community. Many residents of Arcola support this policy, as does the Dulles South plan. As in other communities, the residents of Arcola should be involved early in any new development approval process to ensure that the transition occurs in the least disruptive manner.

A major concern of area residents is the impact of new business development on existing residences and businesses. Along the Route 50 corridor, residents of the Meadow Lane subdivision felt that their enjoyment of their homes was being limited by the General Plan which designates the area as "Business Community". The Dulles South plan designates the Route 50 corridor as a Light Industrial area. However, with the changes to the County's aircraft noise policies, residential uses are now a more viable part of the Light Industry designation. It is the County's intent to protect the residential viability of these neighborhoods until the residents collectively support a change to another land use.

Policies

1. New development adjacent to existing, individual dwellings, farms, or businesses shall endeavor to provide on-site features to minimize the impact on the existing use and enhance the character of the existing community. Such features may include, but not be limited to, extensive natural buffering, separation of street entrances, redirection of new traffic and complementary site design.
2. Development adjacent to existing residential and building clusters, identified on the Existing Neighborhoods Map (see Figure 6, page 30), should endeavor to incorporate those clusters into the project planning.
 - a. This incorporation will examine the issues of utility service, traffic and road access, protection of views, stormwater management and protection of locally valuable cultural resources.
 - b. This policy will be implemented through joint meetings of homeowners, developers and County officials prior to and, if needed, during the formal submittal and review process.
3. The Dulles South plan supports existing General Plan policy regarding the eventual conversion of Arcola to a business community.
4. The County recognizes that the desired development of Dulles South may require that existing residential neighborhoods eventually change to another land use designation. Protection should be provided to those residential communities that wish to remain residential for the foreseeable future, but ultimately wish to be able to sell their properties for business uses comparable to what has occurred around them in the interim.

Dulles South Planning Area Existing Neighborhoods



Generalized Existing Neighborhood Boundary

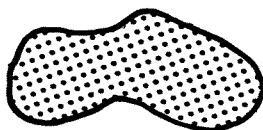


Figure 6.

5. The County will support the rezoning of residential neighborhoods currently designated for protection by the policies of this plan when adjacent land has been developed to business or industrial uses or when the majority of residents indicate their support for the action. Such a rezoning will be evaluated to ensure that all residential units in the designated neighborhood are either included in the rezoning or protected from the potential impacts of the rezoning. The preferred option would be to include all residents in the rezoning.

6. The County supports the continued development of the Village of Lenah as designated on the Existing Neighborhoods Map, (Figure 6, page 30) as a commercial area. New commercial or business uses may be permitted on land within the designated neighborhood provided:

- a. the location and design of the use accommodates planned improvements to Route 50;
- b. additional access points to Route 50 are not proposed;
- c. the proposed site design mitigates potential impacts on adjacent residential uses;
- d. the proposed business uses do not require outside storage or display.

7. Notwithstanding the Plan's goal of mixed use development, a single use or single type of use may be permitted on existing lots of record that are less than 5 acres in size. In such cases, the use should be limited to the predominant use permitted in the designated community in which the lot is located (residential in the Residential Community, retail in the Regional Commercial Community...).

The Village at Arcola is an established residential community in Dulles South.



Affordable Housing

Affordable housing has been a subject of study by various Board appointed committees for the past few years. In February 1990, the Board of Supervisors adopted, in concept, the recommendations included in a report prepared by the Affordable Housing Advisory Committee (AHAC). These recommendations serve as the foundation for affordable housing programs and policies outlined in the General Plan and the Dulles South plan.

The fundamental purpose of the County's housing policy is to encourage a broad mix of housing types and to allow higher densities in order to generate a variety of housing prices. Specific policies call for mandating that a certain proportion of housing in new residential development be offered within a specific price range. The County hopes to supply housing to the part of the housing market which has been determined to be undersupplied. The Dulles South plan recommends that the County continue these efforts in Dulles South and focus particular attention on allowing manufactured housing developments in this area and other areas of the County where they may be appropriate. Policies in the plan also acknowledge the need to maintain and improve existing housing in the Dulles South area.

Policies

1. A variety of housing opportunities will be encouraged in the Dulles South planning area to serve a range of incomes, needs and preferences.
2. Affordable housing opportunities will be encouraged in the Dulles South planning area in accordance with affordable housing policies and ordinances. In keeping with County policy, the definition of affordable housing shall be as follows:
"Affordable housing in Loudoun County means fulfilling the housing needs of residents with incomes ranging from 30% to 70% of the County median household income."
3. The County should consider amending the Zoning Ordinance to allow manufactured housing (housing meeting BOCA code requirements) developments in Dulles South and other appropriate areas of the County.
4. The County should consider amending the County's Facilities Standards Manual and Subdivision Ordinance to identify and revise existing standards that act as a deterrent to the development of affordable housing, and in particular, manufactured housing (meeting BOCA code requirements) developments.
5. Affordable housing should be dispersed throughout the Dulles South planning area and fully integrated into new and existing communities.
6. The County should continue efforts to augment and implement affordable housing programs and initiatives in the Dulles South area. Rehabilitation, conservation, preservation and improvement of existing houses should be a component of any housing program developed to serve the needs of the Dulles South region.

Phasing

The General Plan originally proposed two phases for development in Dulles South. Dulles South residents felt development should be encouraged to locate in the area as soon as possible. This is contingent on the belief that new development will bring central sewer and water to help alleviate existing septic problems. Residents also feel that individual project phasing will serve to limit the rate of new growth throughout the area. The Dulles South plan concurs with this approach and proposes that phasing be left to individual decisions of the developer.

Policies

1. New development will not be phased but it is anticipated that development will locate where access to roads and utilities is feasible.
2. The County encourages new development that benefits existing residents.

Land Use Mix and Community Design

Land use mix examines the question of how the 25,000 acres of Dulles South will be divided among business, industrial or residential development. The combination of these uses has a direct bearing on the fiscal contribution of the area to the County. This mix will also determine the absorption rate of new development; that is, the rate at which new units are constructed and occupied, the overall character of the community, and the market to which development is targeted.

Participants at the community workshops supported a mixed use development pattern. Mixed use communities are viewed as a means of providing jobs, improving housing affordability, reducing traffic, and providing the best opportunity to provide facilities, services and amenities. There were few specific comments made during the workshops regarding the types of uses that could be in a mixed use community except that the mix of uses should not detract or have a negative impact on the residential uses.

In order for a mixed use development to be successful, the design and scale of different uses must be complementary. The compatibility of land uses does not necessarily depend on the use itself. It may depend more on the activities associated with the use such as parking, lighting, signs, industrial versus customer traffic, and where the dumpster is located. Uses such as grocery stores, gas stations, convenience stores, dry cleaning/laundry, bakeries, gift shops, office supplies, and similar retail uses are appropriate in residential areas provided the scale of the use does not attract large numbers of outside consumers to the development and the activities and appearance of the business complements the community. Similarly, residential and commercial uses are also appropriate in an industrial area provided industrial traffic or other industrial activities are not hindered.

The Dulles South plan also continues to support the County policy of developing commercial and/or civic centers to function as the social and commercial focus of larger (primarily residential but also industrial)

developments. These centers (referred to as *cores* in this plan) should help a new community establish its identity or sense of place.

From a regional perspective, Dulles South is faced with major surpluses in typical "Northern Virginia" types of employment and residential development. Fairfax County has approved zoning for the development of 113 million square feet of office and industrial space in the Route 28 corridor. There are also a 177 million square feet of approved business floor area in Dulles North and Eastern Loudoun which compete in the regional business market. This available capacity almost ensures a reduced market for similar industrial and office space in Dulles South. Likewise, Loudoun County has a surplus of over 30,000 residential units currently approved (zoning). Depending on changes in the regional market, particularly decreasing space for single family detached and townhomes in Fairfax, this surplus may be consumed more quickly and be less of a deterrent to housing development in Dulles South. However, such supply and demand issues will impact the rate of development in Dulles South.

Residential Areas

Residential development typically leads to an increase in costs to the County (the bedroom community syndrome). Costs can be controlled by providing a combination of housing types. Single family detached units incur more public expenditure because these households typically include more school age children; attached and multi-family units require less expense. The General Plan projects that Dulles South may accommodate up to approximately 44,000 new homes at a density of four dwelling units per acre.

The Dulles South plan sets a slightly higher housing figure of approximately 47,000 units and proposes higher densities over a large part of the area to encourage a more affordable residential unit mix. This policy responds to concern among area residents that the lack of affordable housing has driven and may continue to drive their children to locate outside of the area. It should be noted that this projection is based on anticipated demand and historical product mix and does not reflect the additional units that may develop in response to the County's adopted Affordable Dwelling Unit Ordinance. Furthermore, the projection does not anticipate residential densities to reach the maximum proposed by the DSAMP.

The mixed use objective is accomplished in residential areas by providing the opportunity for a mix of business, civic and recreational uses to locate convenient to the residents. If residents have the opportunity to shop, work and play within or close to their neighborhoods, the County will have taken an important step to reduce the traffic volumes on major roads, provide people with more social and recreation time, increase their ability to participate in community activities and generally provide for a less harried and fatiguing lifestyle.

Policies

1. The land use pattern of Dulles South shall generally conform to the Land Use Map (see Figure 7, page 36).
2. The land use mix policies of this plan (residential and non-residential) are to be used as guides and are somewhat flexible. When the applicant can demonstrate by the nature of the terrain, design, mix of uses proposed, or other criteria that a proposed development supports the general policies of this Dulles South plan, the percentage allotments and requirements of exact distances may be mitigated or waived.
3. The Low Density Residential Area (LDR) is intended to reduce the impact of development on the Occoquan watershed, complement the low density land use pattern in Prince William and Fairfax Counties and place the focus of development closer to Dulles North, Dulles Airport and Route 50.
4. Overall project densities in the LDR (outside of Town or Neighborhood Centers) should range between one (1) and three (3) units per acre depending upon the availability of roads, utilities and services, and implementation of the County's design guidelines. Density may be increased to four units per acre if the development is clustered pursuant to the Zoning Ordinance.
5. The LDR should develop as a series of distinct neighborhoods and clusters surrounding a village, Neighborhood or Community Core.
6. New residential proposals in the LDR shall seek to preserve 30% of the residential area as civic and open space by clustering lots and diversifying the types of residential units in the project.
7. A buffer of 200 feet will be maintained along Bull Run to help protect water quality in the Occoquan Reservoir. Development potential from usable land in the buffer should be transferred to other parts of the property or to other sites. The buffer area should be maintained as a natural, vegetative area; however, passive recreation uses may be permitted. A 300 foot transition area, outside the buffer, will be maintained along Bull Run. The transition area may be rezoned to permit higher density development potential provided development potential above that permitted by current zoning is transferred to other parts of the property or to other sites. Large lot residential development as permitted by current zoning, passive and active recreation uses, agricultural and forestry uses may be permitted in the transition area.
8. The Moderate Density Residential Area (MDR) is intended to provide the opportunity for compact, self sustaining and affordable communities, the efficient use of public facilities and services and a variety of residential housing and business types.

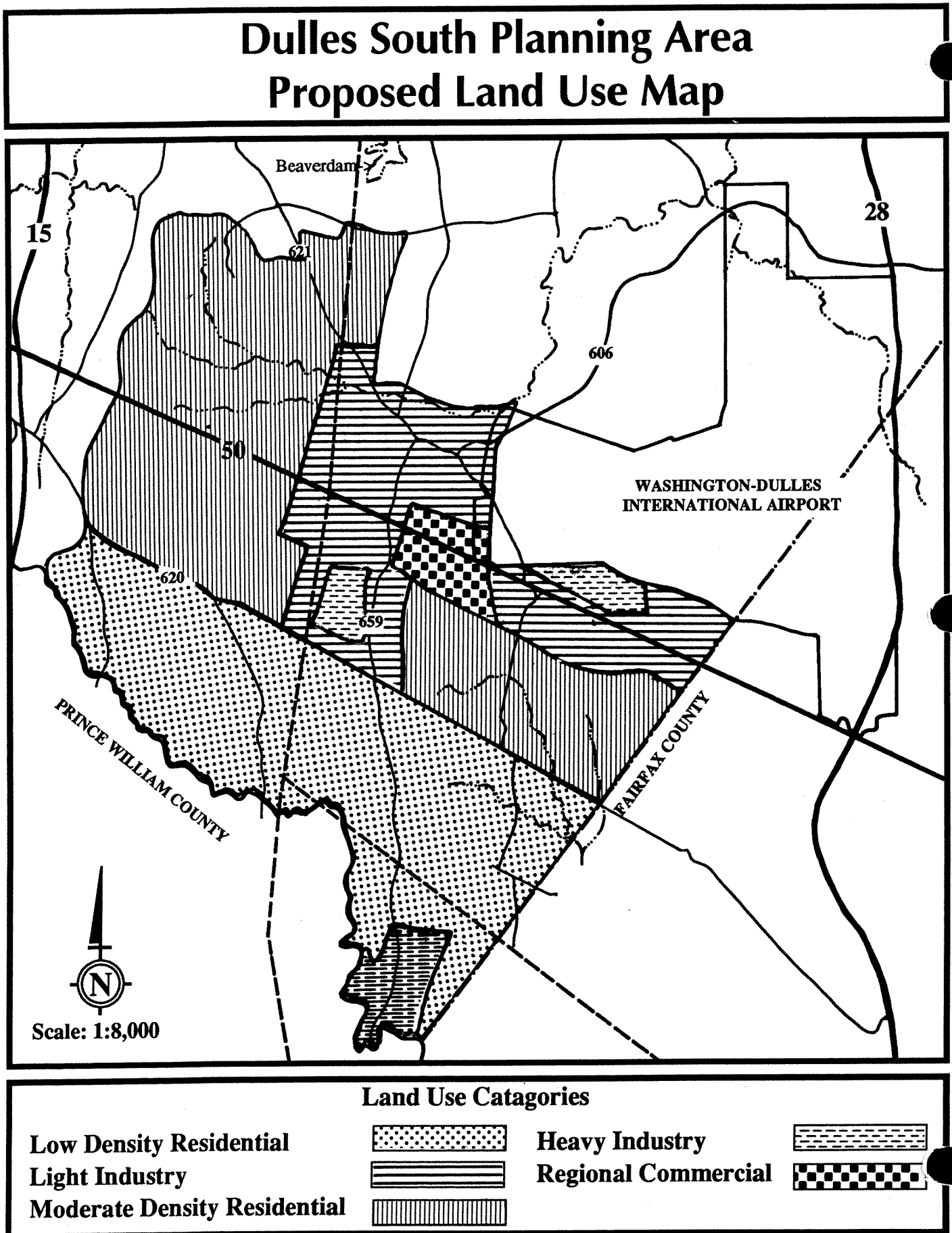


Figure 7.

9. Overall project densities (outside of Community or Neighborhood Cores) in the MDR should range between three (3) and six (6) units per acre depending upon the provision of roads, utilities and services, the proximity to a Community or Neighborhood Core, open space protection and implementation of the County's design guidelines.

10. The MDR should develop as a series of distinct neighborhoods surrounding Community or Neighborhood Cores.

11. Development in the MDR will be concentrated to preserve open space, reduce road and utility costs and to create a strong sense of community among residents.

12. New developments in the MDR shall seek to preserve a minimum of 30% of the development area as civic and open space.

13. Suburban and traditional design will both be bona fide land use design options in Dulles South. Design standards will provide the opportunity for each option to function as mixed use, pedestrian friendly communities.

14. Residential developments should include local commercial, employment, open space, civic uses (i.e. churches, community centers...) and recreational facilities. The following criteria should be used to evaluate the appropriateness of the different uses:

a. Local commercial uses may include retail outlets offering personal convenience items, personal service shops such as drycleaners, banks, doctor's offices and similar uses provided:

i. They are small scale operations intended to serve the adjoining neighborhoods;

ii. They are located in small, compact Neighborhood Cores or Community Cores in compliance with the relevant policies for each center;

iii. They propose compatible design features that exhibit a pedestrian-friendly scale, and convenient access for local residents; and

iv. Associated commercial activities such as parking, signs, lighting, waste storage, and loading areas are located and designed to minimize the impact on adjacent areas.

b. Employment uses may include office and light industrial uses provided:

i. Activities such as storage, assembly, and display are completely enclosed and there is no noise, vibration, odor, or other emissions;

ii. Access for industrial traffic does not require such traffic to move through residential neighborhoods;

iii. The proposal includes compatible design features that exhibit a pedestrian-friendly scale, and convenient access for local residents; and

iv. Associated commercial activities such as parking, signs, lighting, waste storage, and loading areas are located and designed to minimize the impact on adjacent areas.

c. Open space uses such as natural areas, tot lots, athletic fields and maintained parks and greens should generally be dispersed so they are conveniently located to most people in the neighborhood. In addition, the following locational criteria are recommended:

i. Athletic fields should be located along collector roads and should be buffered from adjoining residences, although trails or sidewalks should provide a connection with the neighborhood; and

ii. Greens and other maintained, passive parks should serve both a recreational and design function by being located in high visibility areas or in conjunction with civic uses such as schools, churches or community buildings and a neighborhood core where the green can serve as either a "mall" for the core or as a buffer for adjoining homes.

d. Civic uses that are appropriate within residential neighborhoods include churches, community centers, elementary schools, municipal services and facilities such as a senior cafe, children's daycare, store front libraries, and similar uses. In addition, the following locational criteria are recommended:

i. Civic uses should be located at prominent locations within the neighborhood such as the end of a street, on a ridgeline, or at a street intersection;

ii. Where possible, such uses should be located in conjunction with a Neighborhood Core; and

iii. Parking and associated activities such as signs, loading, and lighting should be located and designed to have minimal impact on surrounding areas.

15. The mix of uses (measured as a percentage of the land area) in new residential communities should generally conform to the following ratios:

	Minimum Required	Maximum Permitted
Residential (outside the 65 Ldn)	30%	70%
Civic & Open Space	30%	no maximum*
Light Industry & Office	0%	20%

16. Residential developments of at least 100 acres in size may include a Neighborhood Core, pursuant to this plan and the Neighborhood Center Policies of the General Plan.

17. Residential developments of at least 300 acres in size may include a Town Core, pursuant to this plan and the Town Center policies of the General Plan.

18. All residential rezoning requests will be evaluated in accordance with the General Plan Capital Facility and Open Space proffer guidelines and in accordance with the capital facilities policies of this Plan. However, since the acquisition of a regional park site is a priority in the Dulles South Planning area, the County will encourage that the Open Space proffer guidelines be met through donations of cash to purchase a regional park site and/or through dedication of land for a regional park site.

19. Within the designated Residential Community along the Route 50 Corridor, the Plan supports the use of incentives to preserve a landscaped setback from the highway. To this end, the County may consider the following:

a. For a development that provides a 300 foot building setback and a 150 foot landscaped parking setback from Route 50, the County may permit an additional 5% of the development area to be dedicated to Retail or light Industrial uses where they are otherwise permitted.

Or

b. For a development that provides a 300 foot building setback and a 150 foot landscaped parking setback from Route 50, the County may credit the area within the 300 foot setback towards open space easement proffers that may be anticipated through the ***General Plan Open Space Proffer Guidelines***. Easements shall be credited at the rate of three dwelling units per net acre.

Neighborhood Core

A Neighborhood Core provides the opportunity to implement the Plan's mixed use policies by allowing commercial development to locate in a residential community. The center concept is intended to prevent the haphazard location of stores along residential streets. It also serves an important design function by creating a hub around which community activities and amenities can be planned. The Neighborhood Core is where people can get a gallon of milk, drop off their dry cleaning and get some gas on the way home from work. It is where people walk to get their paper on Sunday morning or where residents hold an HOA meeting or go to church. The Dulles South plan proposes that these centers be small, compact enclaves. Individual businesses will also be small, usually no larger than 10,000 square feet in gross leasable floor area, although, a food store or supermarket located in a neighborhood core may be larger.

The Neighborhood Core should be located within a neighborhood, along a minor collector road, suited for on street parking. It should be separated from major collector roads or arterials to minimize the amount of "outside" traffic that might be attracted to the center. Different centers should be well separated from each other to prevent their eventual merging or the potential for strip development along an adjoining road.

Policies

1. Residential neighborhoods exceeding 100 acres in gross area may include a Neighborhood Core. The total area dedicated to the Neighborhood Core(s) shall not exceed 3% of the area of the proposed development.
2. A Neighborhood Core is intended to be a compact grouping of commercial, business, civic and residential uses providing convenience goods and services to residents in adjoining neighborhoods. It is also intended to create a sense of place and identity for the community.
3. The Neighborhood Core should be located on a collector road serving adjoining residential neighborhoods, generally in the geographical core of an individual neighborhood or between adjoining neighborhoods, but shall not directly access an arterial or major collector road.
4. Approval of a request to rezone property to establish a Neighborhood Core shall be contingent on the adequacy of roads and utilities and compatibility with adjoining residential development and compliance with the community design goals of the County.
5. The Neighborhood Core shall be limited to a single property or contiguous properties with a maximum size which does not require a primary market beyond the adjoining neighborhoods.

Community Core

The Community Core provides the opportunity for more intensive commercial and business development within large residential communities. The Community Core will provide for a mix of land uses including residential, commercial, civic and employment uses. As with the Neighborhood Core, the Community Core is intended to be compact and primarily made up of small scale businesses. The Community Core must be designed to accommodate pedestrian and vehicular traffic with a full complement of services and amenities.

Community Core design should focus on how it can best relate to the adjoining residential neighborhoods. Cores should provide the types of goods and services that are needed by local residents, as well as, restaurants, theaters and other types of entertainment that will create a dynamic social center. Policies stress a reasonably central location, safe and convenient pedestrian and vehicular access from each adjoining neighborhood, and architectural and site planning features that create an interesting and pleasant pedestrian environment. The Community Core should still be distinct in ways which make it obvious that a pedestrian or motorist has left a residential area and entered a shopping area. Changes in the size of landscape elements, sidewalk widths, street lighting or architectural theme help distinguish between areas.

Policies

1. A Community Core is to be built on 30 to 60 acres of land. Residential densities should be between eight (8) and 16 units per net acre contingent upon the availability of utilities, roads and public facilities and in conformance with the community design and growth management policies of this Plan.
2. The location of a Community Core should be evaluated against the following criteria:
 - a. A Community Core must be at least 10,000 feet away from another Community Core and at least 4,000 feet away from a Neighborhood Core. The distance shall be measured between the two closest points. This separation may be reduced where a permanent natural or manmade barrier provides clear visual separation and eliminates the possibility of different cores merging into a commercial strip.
 - b. A Community Core should be situated in one quadrant of the intersection of two arterial or major collector roads or on one side of a single arterial or major collector provided that the majority of the residential community should not be separated from the Community Core by an arterial road or major collector.
 - c. A Community Core should clearly relate to adjoining neighborhoods by means of pedestrian and vehicular access, provision of

recreational, cultural and social services and compatible design of structures, landscape and associated features.

3. The mix of land uses (measured as a percentage of the land area) in a Community Core should generally conform to the following ratios:

	Minimum Required	Maximum Permitted
Residential (outside the 65 Ldn)	25%	40%
Commercial Retail & Services	20%	60%
Regional Office	10%	25%
Combined Total of Retail & Regional Office Uses	30%	60%
Civic & Open Space Open Space will be a minimum of 5% of the total land area	20%	no maximum*

4. Approval of a request to rezone property to permit a Community Core shall be contingent on the provision of appropriate civic uses and services, the impact on existing neighborhoods and compliance of the proposal with the community design goals and policies of the County.

5. Individual commercial uses within a Community Core should not have a single-level floor area significantly larger than 20,000 square feet with the exception that a food store or supermarket may exceed this limitation. Such stores may include uses such as pharmacies, banks, and other services within the principal use.

Regional Hub

The Regional Hub is envisioned to function as the *downtown* of Dulles South. The Regional Hub will feature positive design qualities found in urban areas such as Arlington and Alexandria. Principal among these are the creation of well configured squares and greens, an interconnected network of landscaped streets with frontages dedicated to social and recreational activity and visual enjoyment for the pedestrian as well as the motorist, a pattern of small blocks, and civic buildings that act as landmarks and symbols of community identity.

Like traditional urban centers that go through continual cycles of change, the Regional Hub will evolve in response to changes in Dulles South. Rather than precede new development, the Hub will come only after a significant amount of construction has already occurred and in conjunction with the development of services such as public transit. The primary function of a Regional Hub will be as an office and retail center, but the clustering of houses, commercial, and public uses is designed to create a stable community that provides varied living and working options.

Because such a Hub is not anticipated to occur for many years, the Dulles South plan does not propose to identify a specific site. Such a Hub will evolve from a community core or other major commercial development and will be driven by market considerations. By evaluating the ability of a proposed Regional Hub to become a major focus of the planning area, the Plan intends to provide flexibility to the developer.

Policies

1. The County envisions one Regional Hub evolving out of a Regional Commercial development or a Community Core and that this evolution will coincide with the growth of a local market for goods and services. Therefore, it is intended that a rezoning to permit an Regional Hub may be approved to permit the transition of a constructed Community Core or Regional Commercial center or, in the case of a vacant site, when the Hub is designed to serve a substantial residential community, already constructed.

2. The Plan envisions the Regional Hub functioning as the planning area's downtown. The Regional Hub will generally exhibit the following characteristics:

- a.** A compact, high density mixed use development on 50 to 90 acres consisting of commercial and office uses but also including appropriate residential and civic uses.
- b.** Business floor area ratios which encourage multi-storied structures on small lots with ground floors dedicated to retail and service uses.
- c.** Residential densities between 15 and 24 units per net acre in portions of the Hub designated for residential uses and as upper story uses in buildings in the business areas.
- d.** Direct access via one or more arterial or major collector roads and connections to public transit.
- e.** A pattern of interconnected streets preferably creating a grid of small rectilinear blocks, typically about 400 feet long.
- f.** Open space totalling a minimum of 100,000 square feet and consisting of a number of small parks and urban green spaces at least one of which is a green or square of 20,000 square feet or larger, that can accommodate public events such as a community festival or craft show.

3. Proposed Regional Hub sites should satisfy the following criteria:

- a.** The site should be adjoining, and have access to, at least one arterial or major collector road.

b. The site should be located in either a light industrial or residential area and, it should be adjacent to a substantial residential community outside the Hub itself.

c. A Regional Hub should not locate in areas designated Low Density Residential Areas and should not be situated within 10,000 feet of a Rural Area as designated by the General Plan.

d. The site should be located on a public bus route which provides access to a fixed rail transit station or other regional transit service.

e. The residential portion of the Hub should not be located inside the Aircraft Noise Impact area (65 Ldn) as defined in this Plan.

4. The land use mix (measured as a percentage of the land area) in a Regional Hub will generally comply with the following ratios:

	Minimum Required	Maximum Permitted
Residential (outside the 65 Ldn)	10%	25%
Commercial Retail & Services	20%	55%
Regional Office	30%	50%
Light Industrial	0%	20%
Combined Total of Light Industrial and Office use	30%	50%
Civic & Open Space	15%	no maximum*
Open Space will be a minimum of 5% of the total land area		

Business and Industrial Areas

Dulles South is faced with direct competition from other parts of Loudoun County and Fairfax County. Fairfax County has approved zoning for the development of 113 million square feet of office and industrial space in the Route 28 corridor area. There are also a 177 million square feet of approved business floor area in Dulles North and Eastern Loudoun which will compete in the regional business market. This available capacity, linked to proximity to Routes 28 and 66 and the Toll Road almost ensures a reduced market for industrial and office space in Dulles South. The Dulles South plan proposes considerably less business and industrial area than previously permitted by the General Plan. This change is due in great part to a substantial reduction in the area covered by the recently revised 65 Ldn noise contour.

Much of the approved business development potential elsewhere in the County targets office and flex industrial uses. Very little of the land will accommodate service or manufacturing uses. This suggests that the best opportunity for employment uses in Dulles South will likely be service and manufacturing industries such as construction, equipment sales and repair, aircraft and travel services, warehousing and distribution, and similar uses. Unlike other areas, Dulles South is proposed to accommodate uses that may require outside storage and assembly, more industrial traffic and more product or service oriented structural designs. However, care must be taken to make such uses compatible in a mixed use environment.

The Report of the Economic Development Task Force (dated March, 1992) among other things, outlines the target industries and businesses that will expand and stabilize the County's economic base. First among these are those businesses that are associated with Dulles Airport. Industries that are aviation and transportation oriented including freight forwarders, distribution facilities and aircraft maintenance and supply operations will serve to enhance the role of the Airport in the national and international market. Other businesses are sensitive to airport proximity. Businesses with high transportation requirements and particularly those with international transportation needs, such as financial service companies and consulting firms, are also to be targeted.

Washington Dulles International Airport is becoming an increasingly important international destination for both tourism and trade. The Airport is a Foreign Trade Zone but to date this asset is under marketed. Foreign Trade Zone status provides for the duty free movement of goods from the Airport and has several benefits with regard to industries that locate in the Zone. Air transport moves about 22% of all Mid-Atlantic exports. In Virginia, air transported exports increased by 30% between 1987 and 1990. Currently this facet of the Airport is under used. The potential exists for a significant increase in cargo related industries. The County has planned for and committed resources to the continuing development of employment uses in Dulles North.

Residents expressed a fear that Dulles South might become a "dumping ground" for undesirable uses such as a landfill or heavy industry. Although they appreciate the economic role of the existing quarries, residents do not support additional quarries in the area. Residents also felt that new industry should be compatible with the residential character of the community. Residents feel Dulles South should be a residential community with employment uses as a smaller part of the land use mix.

Policies

- 1 The County encourages the development of service industries in Dulles South, particularly service industries related to Dulles Airport. Service industries shall include but not be limited to manufacturing and assembly operations, materials handling, travel services, catering, information processing, equipment repair and storage and similar industries that are labor intensive and require a range of labor skills.
2. Industrial development in Dulles South should conform to the design guidelines presented in this Plan and the General Plan. Those design guidelines are intended to minimize the negative impact of industrial activities such as outside storage, loading and outside assembly operations or noise, light, or other emissions.
3. Business development areas are identified on the Land Use Map (see Figure 7, page 36) as follows:
 - a. Light Industry Areas include a mix of office, flex industrial and service industries, as well as compatible high density residential development as a minor component of larger industrial developments.
 - b. Heavy Industry Areas are intended for industries that may not be compatible in a mixed-use community; and to provide for development of quarry related uses.
 - c. Regional Commercial Areas are intended to accommodate commercial retail uses including shopping centers generally exceeding 150,000 square feet of leasable floor area and large "single user" buildings typically, 50,000 square feet or larger, whose primary market exceeds the surrounding community, and which require expanses of surface parking and otherwise are not pedestrian oriented.
4. Within the designated Light Industry and Regional Commercial Communities, the Plan supports the use of incentives to encourage the consolidation of small lots, along Route 50, to reduce access points on Route 50, and to preserve a landscaped setback from the highway. To this end, the County may consider modifications to the land use mix within each Community as follows:
 - a. For a development proposing to incorporate one or more existing lots of record, 10 acres or less in size, that front on Route 50 into a tract of 10 to 20 acres and reducing the number of access points to Route 50 to no more than the minimum required by VDOT, the County may permit an additional 5% of the development area to be dedicated to Office, Retail, Light Industrial, or Residential uses. In regional Commercial Communities, this bonus permits a total of 5% of the area to be used for residential purposes (outside the 65 Ldn).

-
- b. For a development that provides a 300 foot building setback and a 150 foot landscaped parking setback along the frontage on Route 50, the County may permit an additional 5% of the development to be dedicated to Office, Retail, Light Industrial, or Residential uses.

Light Industry Areas

In Dulles South, the Light Industry Areas are intended to accommodate a mix of uses similar to that proposed in the General Plan. Differences between the land use mix ratios proposed in the plans result from a reduction in the area recommended for civic uses in non-residential areas. Light industries, in Dulles South, are intended to include more service and manufacturing oriented uses than currently proposed in the General Plan. Such uses typically need outdoor storage or assembly space, equipment storage and other associated activities not recommended in the General Plan. This change to a more obtrusive character will increase the need for buffering and screening to protect adjoining land uses. This change is intended to reduce the competition between Dulles South and Dulles North and improve the potential for growth in the near future. The Light Industry Area designation is focused on the Route 50 corridor and within the revised 65 Ldn. Light industry uses are also proposed around the approved Alliance Quarry site. This area is also subject to specific policies within the Quarry policies.

Policies

1. Light industrial uses are encouraged in compact parks and clusters within the Route 50 corridor and in other areas designated Light Industry on the Land Use Map (see Figure 7, page 36).
2. Industrial uses will be limited to those which do not require substantial outside storage and which have negligible emissions (i.e., noise, odor, vibration).
3. Residential communities should be protected from the negative impacts of traffic generated by industrial development. Development proposals for new light industries shall include a plan to minimize and/or mitigate the impact of industrial truck traffic on residential communities through appropriate routing and operational restrictions.

4. The mix of uses in a Light Industry Community (measured as a percentage of land area) should generally conform to the following ratios:

	Minimum Required	Maximum Permitted
Light Industrial Flex	45%	95%
Regional Office	0%	40%
Commercial Retail & Services	0%	10%
Combined total of Retail & Regional Office Use	0%	40%
Residential (outside the 65 Ldn)	0%	25%
Civic Space Refer to Policies 5 & 6	0%	no maximum*
Open Space	5%	no maximum*

5. In the residential component of a Light Industrial community, the civic space and open space requirement shall be a minimum of 30% of the area designated for residential use.
6. The County shall consider the need for on-site civic space in Light Industry areas on a case by case basis but it is anticipated that such projects will contribute toward civic facilities in the planning area based on the need generated by the project.
7. Residential development in the Light Industry areas may have a maximum density of 24 units per acre contingent on the availability of adequate roads, utilities, and public services; compatibility with surrounding uses; and compliance with other policies of this Plan.

Regional Commercial

Regional Commercial uses are typically large scale retail and service uses, such as shopping centers, which involve outside storage and display, large parking areas for customers and delivery, and large buildings. They have little in common with residential developments or neighborhood, town or regional hubs. They derive their customers from a regional market more so than from the local community and therefore depend on significant vehicular traffic.

The size and scale of individual structures will depend on the nature of the operation and its relation to surrounding uses. Larger structures should include design features that minimize the impact of the structure on surrounding land uses. Landscaping, site grading, architectural design accommodations such as stepped back upper levels and variable facade treatments may all be used to ensure compatibility with adjoining uses.

As in other types of communities, this Plan and the General Plan seek to make buildings the prominent feature of a site by removing the parking from the front of a building. Smaller businesses should locate toward the front of the development to provide visual variety, to break the visual impact of the large scale buildings to the rear, and to separate the “fast turn around” traffic movement from the more long term, big item shopper traffic. Smaller scale development at the front also helps to hide the parking areas and give the streetscape a less congested appearance.

Larger Regional Commercial developments should scale down structures that abut residential areas and should screen parking and loading facilities that, likewise, abut residential uses. Natural drainage features, such as swales and ponds, should be conserved to the greatest extent possible to help break up the visual effect of large paved areas.

Policies

1. Regional commercial uses are defined as large scale retail uses (other than grocery stores) with primary markets other than Dulles South, that require building footprints in excess of 50,000 square feet of gross leasable floor area for single user buildings, and shopping centers in excess of 150,000 square feet.
2. Regional commercial uses, because of their auto intensive nature and the large market area, will be permitted to locate only in areas so designated on the Land Use Map or as a minor component of a Light Industry development.
3. The County may approve the construction of a Regional Commercial development subject to the following:
 - a. The proposed use has direct access to an arterial or major collector road without routing traffic through a residential community.
 - b. The proposed use respects the ultimate arterial or major collector road alignment proposed in this Plan.
 - c. Utilities are available to accommodate the use.
 - d. Detrimental impacts on adjoining residential communities shall be minimized.
 - e. The proposal satisfies the community design objectives of this Plan and the General Plan.
 - f. The use will not interfere with the function of adjoining light industries

4. The land use mix (measured as a percentage of the land area) in a Regional Commercial area will generally comply with the following ratios:

	Minimum Required	Maximum Permitted
Residential (outside the 65 Ldn)	0%	0%
Commercial Retail & Services	55%	95%
Regional Office	0%	30%
Light Industrial/Flex	0%	20%
Combined Total of Regional Office & Light Industrial Use	0%	30%
Civic Space	0%	no maximum*
Open Space	5%	no maximum*

5. Residential communities should be protected from the negative impacts of traffic generated by regional commercial uses. Development proposals for new regional commercial uses shall include a plan to minimize and/or mitigate the impact of traffic on residential communities through appropriate routing and operational restrictions.

Shopping Centers

The residents of Dulles South expressed a need for convenient shopping. Currently most of the day to day shopping for necessities and all of the shopping for groceries and durable goods must be conducted outside of the area. Most residents go to Fairfax County for their groceries and major purchases. Several workshop participants view destination retail business (i.e. shopping malls, discount retailers...) as an opportunity for Dulles South, although large scale malls such as Fair Oaks or the proposed Dulles Town Center were described as too large.

Current County plans limit the location of larger shopping centers to specific, identified sites. The Dulles South plan policies are more general, limiting certain size shopping centers to residential or business areas rather than specific sites. The Dulles South plan also recognizes that in order to generate market interest in Neighborhood and Community Cores, conventional shopping centers may have to be incorporated into the mix of uses. For example, a supermarket is essential to the community core use mix and typically it will locate in a small shopping center configuration, similar to that proposed as part of the Cascades Town Center. Careful consideration of design compatibility, pedestrian access and other matters will be important prerequisites for such proposals.

Policies

1. Commercial shopping centers of less than 150,000 square feet of gross leasable floor area (gfa) should locate in neighborhood or community cores.
2. Commercial shopping centers of greater than 150,000 gla should locate only in areas designated Regional Commercial or Light Industrial on the Land Use Map.
3. Commercial shopping centers exceeding 350,000 gla should locate only in areas designated Regional Commercial on the Land Use Map.
4. Food stores and supermarkets should locate only in Neighborhood or Community Cores in accordance with the County's Comprehensive Plan.
5. All shopping centers will include design features that achieve the following:
 - a. A minimal interference with traffic flow on arterial and major collector roads;
 - b. A site design that is compact and makes structures the prominent feature of each site as viewed from adjoining roads;
 - c. A substantial degree of landscaping in the form of buffering, parking lot tree canopy, street trees and other landscaping; and
 - d. An appropriate transition or buffer between the center and adjoining uses including compatible uses, landscaping, pedestrian access and other means.

New commercial centers with street trees and landscaped parking areas.



Photo by CHK Architects and Planners (designers) and Trafalger House Properties, Inc. (developer).

Heavy Industry

In Dulles South, the term heavy industry most often refers to the quarry and rock crushing operations at Chantilly and Bull Run Quarries. However, the heavy industry designation also applies to businesses which use or produce toxic materials; which emit odors, noise or smoke; or otherwise create a nuisance for or are incompatible with neighboring land uses. Such uses, though not always preferred, are accommodated in Dulles South, in keeping with the Plan's philosophy of providing space for service and manufacturing industries.

To reduce the impact of such uses, the Plan designates the area surrounding existing and approved quarries as Heavy Industry. This will consolidate their impacts and allow the County to plan for needed road and utility improvements in specific locations. Heavy Industry areas will be separated from residential areas by uses that are more compatible with residential development.

Policies

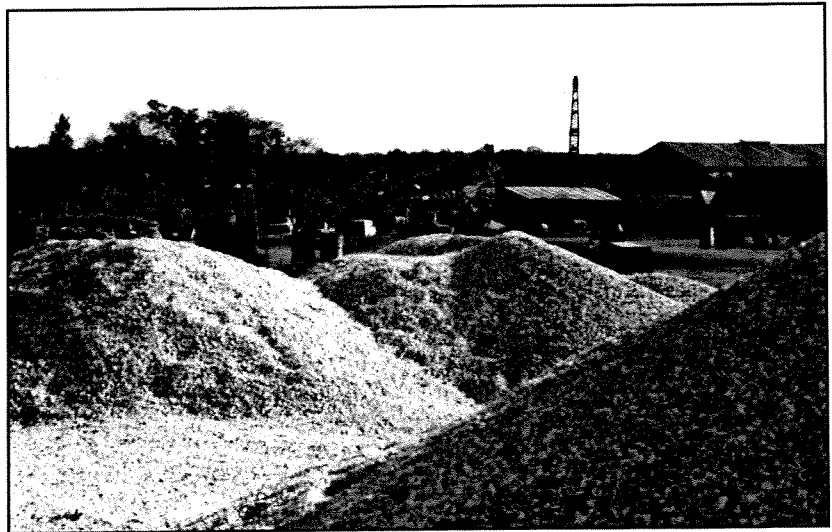
1. Heavy Industry uses are generally defined as manufacturing, resource extraction, refining and similar industries which by virtue of scale, associated emissions or activities, are not compatible with other types of development.
2. Heavy Industry uses may locate in Dulles South only in areas so designated on the Land Use Map.
3. Residential communities should be protected from the negative impacts of traffic generated by heavy industries. Development proposals for new heavy industries shall include a plan to minimize and/or mitigate the impact of industrial traffic on residential communities through appropriate routing and operational restrictions.
4. In evaluating Heavy Industry proposals, the Board of Supervisors shall determine that the following criteria have been met:
 - a. Adequate public utilities and roads are provided;
 - b. The use has mitigated the negative impacts on the surrounding land uses and the natural and cultural environment; and
 - c. The use complies with the goals and policies of the County's Comprehensive Plan.

Quarries

The crushed stone quarries that extract diabase are a substantial economic resource. This stone is primarily used for concrete and road base material. Loudoun County diabase is some of the best rock for these purposes found on the East Coast. Continuing construction activities in the greater Washington area will ensure that diabase continues to be an important economic resource. This industry provides a steady contribution to the County's economy.

Quarrying operations and related activities present a challenge to County land use planning because they may threaten groundwater and surface water quality, they are site specific by nature, and they are compatible with only a few uses, most related to quarry operations. Heavy truck traffic generated by this industry is also an important land use and transportation consideration. Truck traffic from quarries was cited as an important issue by residents and opposition to new or expanded quarry operations often focuses on traffic problems.

Diabase rock is an important economic resource primarily used for concrete and road construction.



Diabase Stone Quarries in Dulles South provide opportunities for employment and economic development.



Policies

- 1.** The County supports the continued development of existing quarries and limits new extraction activity to expansions of the existing quarries or development on adjacent land.
- 2.** The expansion of existing quarries or development on adjacent lands may be approved subject to the following conditions:
 - a.** Access to the proposed quarry site is provided by roads designed and suited for industrial traffic and located to separate the industrial traffic from residential neighborhoods and other non-industrial developments;
 - b.** Surrounding properties and public thoroughfares are adequately screened and protected from the noise, vibration and visual impacts of the quarry; and
 - c.** The quarry site minimizes detrimental impacts on the environment.
 - d.** Appropriate and adequate security is provided at the quarry to reasonably prevent unauthorized people from entering the site.
- 3.** Current General Plan policies and State and Federal regulatory efforts to manage the development, operation and reclamation of quarry sites should be continued.
- 4.** The Alliance Quarry site and the adjoining Light Industrial area identified on the Land Use Map may, by rezoning, be developed as a residential community pursuant to the Moderate Density Residential area policies provided that:
 - a.** Such development does not affect the viability of industrial uses that may develop under the current zoning;
 - b.** No portion of the Light Industrial area may be developed for residential purposes unless the quarry site itself has been rezoned for another use.

IV. Transportation

Transportation issues in the Dulles South planning area focus on the lack of an adequate road network to serve future growth. The improvement of this road network is but one aspect of an efficient transportation system envisioned for the planning area. The transportation system should support the County's growth management and community design objectives by fostering a close relationship with land use planning, while promoting safety and minimal traffic congestion.

Road Network

Current road capacity in Dulles South, except on Route 50, is severely limited. The existing road network is substandard and will have to be improved concurrent with significant new construction. The numerous single-lane gravel roads in Dulles South are recommended by the Virginia Department of Transportation (VDOT) to handle a maximum of 50 trips per day. Many of the existing roads in Dulles South also have sections of poor horizontal and vertical alignment which should be improved to modern engineering standards to enhance operational safety. Many of the existing roads are also "disjointed" and should be realigned to create a unified corridor.

A comprehensive road network should service pass-through and local traffic with ease. An arterial, collector and service road network is a proven commodity in performing this function. Arterial roads fulfill regional needs by connecting destinations of area residents and pass-through travelers. Major collector roads assist in collecting traffic from, and moving traffic through, an immediate area to feed arterial roads. Minor collector roads distribute traffic from major collectors to local roads.

Route 50 is currently a four-lane median divided facility from the Fairfax County line to just east of Lenah. The Commonwealth's adopted Six Year Road Improvement Plan calls for the extension of the four-laning of Route 50 from east of Lenah to immediately east of Gilbert's Corner. VDOT's draft Route 50 Corridor Study of January 1990 shows Route 50 as a limited access facility, with grade-separated interchanges at Route 609, Route 606, the West Spine Road, Route 659 relocated, Route 772 extended and Route 860. Parallel collector roads within 1/2 mile north and south of Route 50 will be necessary to allow access to frontage properties.

The General Plan, in conjunction with the Route 50 Corridor Study, proposes to relocate Route 659 to the west of its present location. It is planned to bypass Arcola and intersect with Route 50 west of the current intersection and continue south of Route 50 toward the Route 705 crossing of Bull Run. Also, a portion of existing Route 659 will be relocated east of its present intersection with Route 50 to connect with the planned West Spine Road from the Dulles North planning area. The West Spine Road will bypass Arcola on the east, and will intersect with Route 50 between realigned Route 659 and Route 606. Route 606 will extend south of Route 50 to connect with Route 621 leading into Fairfax County.

Several roads connect into neighboring jurisdictions from Dulles South, including Routes 742, 620 and 621, which extend into Fairfax County and, Routes 659, 705 and 624 which extend into Prince William County. Current plans in Prince William show the Route 234 bypass extending into Loudoun in the vicinity of the crossing of Bull Run at the existing Route 705. This connection corresponds to the relocated Route 659 in the Loudoun County General Plan. Existing Route 659 crosses into Prince William and intersects with existing Route 234.

Future plans in Prince William have existing Route 659 continuing as a major collector with the Haymarket area. Route 624, a non-bridged crossing of Bull Run is not shown for improvement on future land use plans for Prince William. Routes 742 and 620 are not scheduled for improvement under the adopted Fairfax County Transportation Plan. Route 620 is slated to remain an improved, rural two lane road in Fairfax County. However, it should be noted that Route 609 (Pleasant Valley Road) is scheduled to be a four lane arterial from the Lafayette Business Center on Route 50, to Route 29.

Solutions to inter-jurisdictional road issues may be reached through various regional agencies that aid in coordination of regional transportation problems in the Northern Virginia area, including the Transportation Coordinating Council (TCC) for Northern Virginia. Its function is to perform an annual review of the separate transportation plans of individual jurisdictions for consistency with the Northern Virginia 2010 Transportation Plan, conceptually adopted by the Loudoun County Board of Supervisors in 1989. Another function of the TCC is to identify, prioritize and pursue funding for key regional transportation projects.

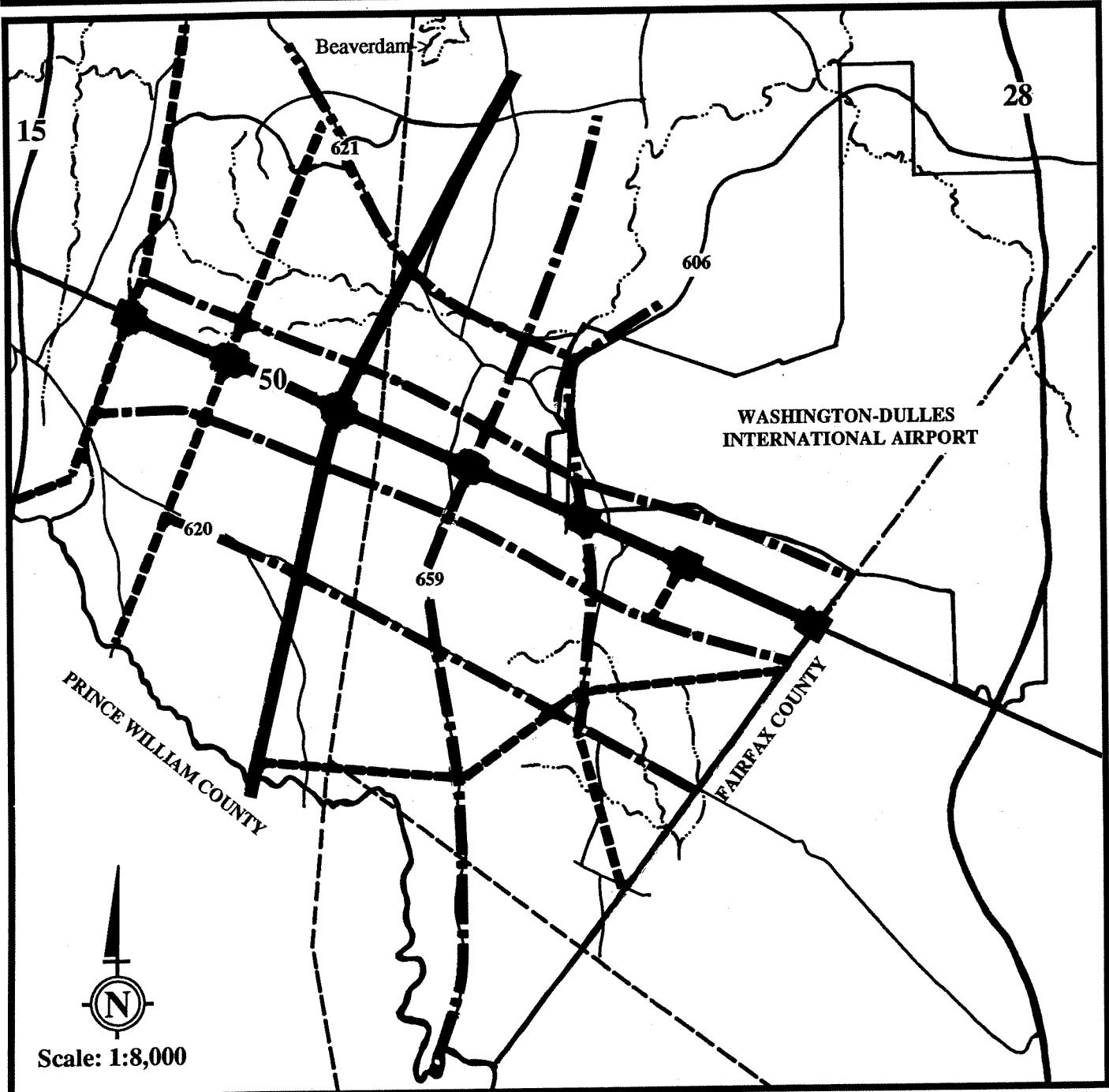
To relieve traffic pressures on the Capital Beltway and its bridge crossings of the Potomac River, the Maryland and Virginia Departments of Transportation have proposed several alternate routes for a bypass of the Washington metropolitan area. One of these options passes through Dulles South east of Route 15, and is known as the Western Bypass. The General Plan does not show an alignment for the Western Bypass in Loudoun County. However, the approved proffers for the Alliance Resources Rezoning (ZMAP-1989-0008) allows for a 10 year window for the County to exercise its option to finalize an alignment for the Western Bypass through its property.

The specifics of alignment and character of the proposed road network is presented with the understanding that transportation plans are dynamic and will require continued refinement. Therefore, proposed network maps should be viewed as conceptual illustrations.

Policies

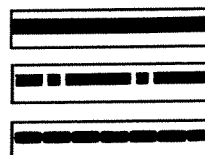
1. An arterial, collector and service road network, supporting the General Plan network, will be constructed to service the planning area. (See Figure 8, page 58). Arterial roads will be Route 50 and Route 659 relocated. Route 50 will ultimately be a six-lane limited-access facility, expandable to six lanes. Major collector roads with a four-lane median-divided design will be Route 620/Braddock Road, the north and south parallel collector roads of Route 50, Route 606 extended, Route 621/Arcola bypass, and West Spine Road/existing Route 659, Minor collector roads will be West Dulles Boulevard, Dulles South Boulevard and Route 860 relocated. (See Appendix B, page 83).
2. The County will actively coordinate with Fairfax and Prince William Counties to expedite regional road improvements and connections. This will be accomplished through discussion with both jurisdictions regarding highway extensions into both counties and by seeking support from State and Regional transportation agencies.
3. All development plans will address traffic issues and seek to minimize traffic impact on established communities through appropriate routing and hours-of-operation restrictions.
4. Route 50 will function as the primary arterial for points west and east of the planning area.
5. Route 50 will evolve from a four-lane median-divided facility to a limited access facility. North and south parallel collector roads will be developed approximately 1/2 mile from Route 50 subject to final alignments which accommodate environmental and cultural features and land ownership patterns. (See Figure 8, page 58).
6. The Route 50 corridor will also contain local service roads between Route 50 and its parallel collector roads. Perpendicular roads will link the local service roads with the parallel collector roads. When Route 50 becomes a limited access facility, the perpendicular roads will terminate in cul-de-sacs.
7. New direct access to Route 50 from fronting properties will be discouraged during its evolution to a limited access facility in order to fulfill design policies for the Route 50 corridor. Under the limited access condition, access will be obtained from the north and south parallel roads to Route 50.
8. Some existing roads may be realigned to perform a regional function as well as address safety concerns.
9. The road alignments shown on the Proposed Transportation Network Map are conceptual in nature and are intended to be preliminary and will later be revised based on more detailed planning and engineering. Final alignments for all roads should accommodate environmental and cultural features, such as historic sites and land ownership patterns.

Dulles South Planning Area Proposed Transportation Network



Major Roads

Arterial
Major Collector
Minor Collector

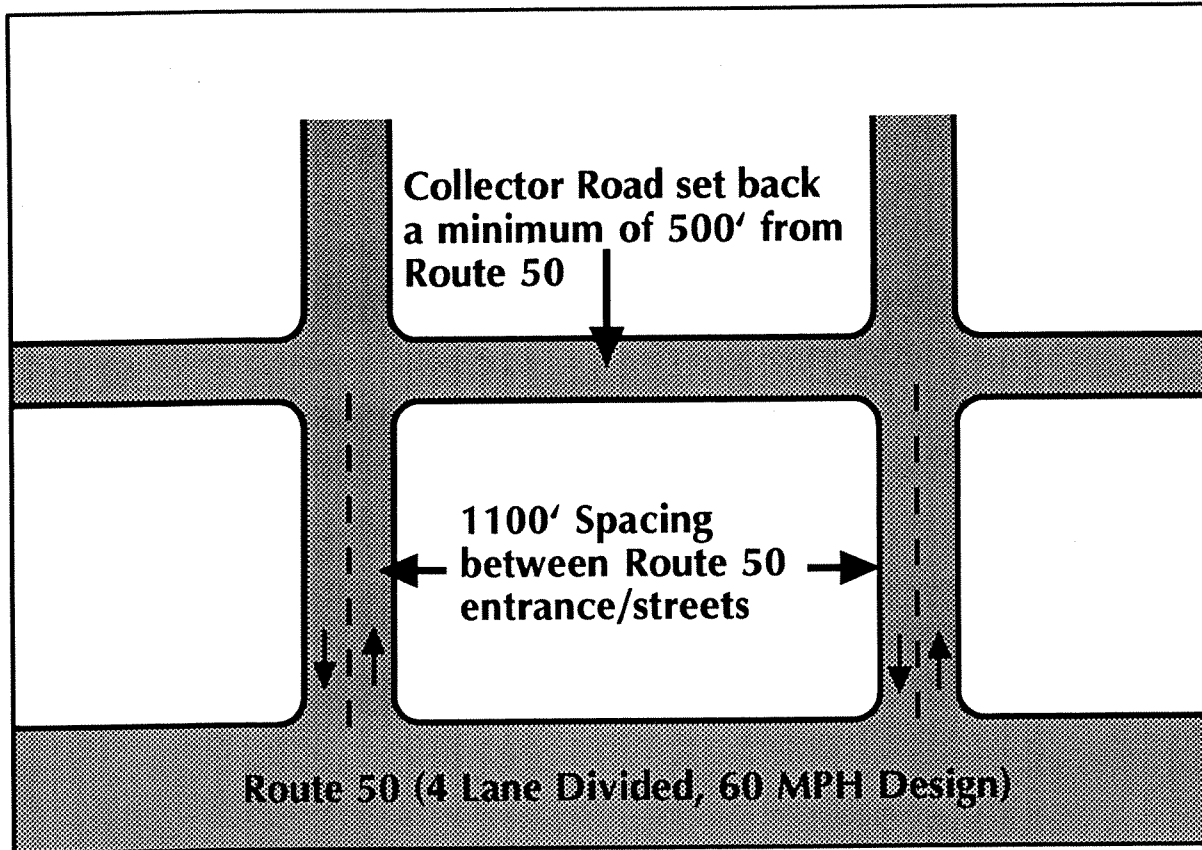


Interchange ■

Figure 8.

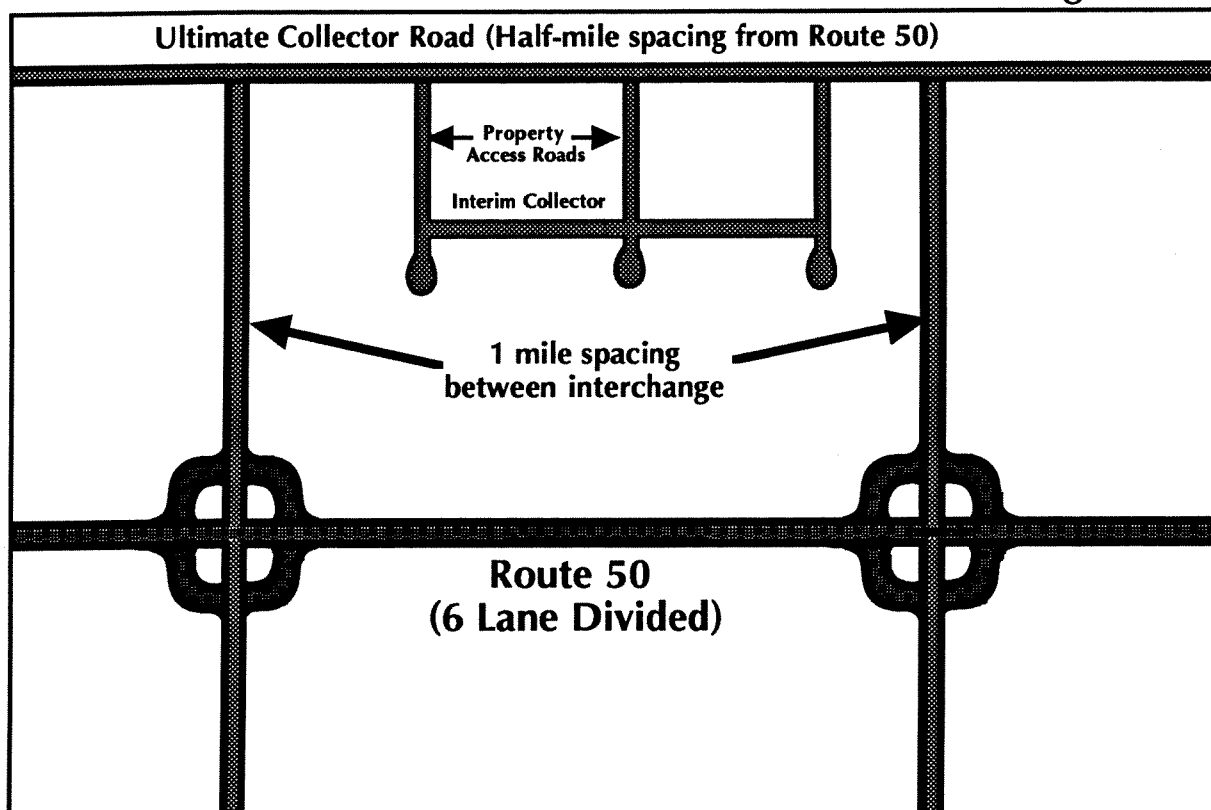
Interim Road Network

Figure 9.



Ultimate Road Network

Figure 10.



Funding

The County has traditionally relied on a mix of state, local and developer funding sources to construct and fund improvements to its road network. The majority of state funding is identified in the Primary and Secondary Six-Year Road Improvement Plan. To reach a middle ground between "up front" (improvements required before the sale of units) and an overburdened existing road system, the County pursues phasing plan commitments as a proffer in rezonings. Phasing of new development against the capacity of the constructed road network attempts to balance the expenditure on roads with the income from development. At the beginning of each phase, however, the road improvements need to be in place to accommodate the development that will be constructed by the conclusion of that phase.

The County has been successful in implementing a proffer system (used in part to fund road improvements) to negotiate with developers to mitigate the impacts of their proposals. Prime examples of this process are the Cascades Parkway interchange on Route 7 in eastern Loudoun and the Route 625/640 corridor in Dulles North.

Another innovative funding technique used by the County to fund road improvements is the creation of a special taxing district that assesses area landowners in order to generate revenue for road improvements. A special taxing district has been established in the Route 28 Tax District with success. As a rule, this approach is effective when implemented for a specific road improvement project. It should be noted that the Commonwealth of Virginia only allows taxing of commercial property, and if there is a shortfall in the district revenues, the difference will be taken out of the Primary and Secondary Road Funds.

Policies

1. The County should continue its current mix of funding sources, which includes state, local and private means. The County will continue to seek innovative funding measures, such as special taxing districts, to assist in financing road improvements.
2. County policy of negotiating phased transportation plans during the rezoning process, as outlined in the General Plan, should continue.

Public Transit

Public transit is in its infancy in Loudoun County. Accordingly, Dulles South is likely to follow areas of more advanced development in receiving public transit services. There is no public transportation in Dulles South currently. The area is covered by the Countywide Rideshare Program, although little commuter traffic is generated in the area. It is envisioned that public transit could link the area to regional transportation corridors, such as the Dulles Toll Road and Dulles Toll Road Extended, where commuter transit to the Washington core area and METRO would be available. Direct buses could run from Dulles South to areas of employment in Dulles North, Fairfax, Prince William, or the close-in Washington metropolitan area, greatly improving the quality of life and the marketability of new development in Dulles South (see Figure 11, page 62). In order for public transit to be effective, it must be supported by sufficient density. A Regional Hub or Community Core could generate enough users to justify public transit service.

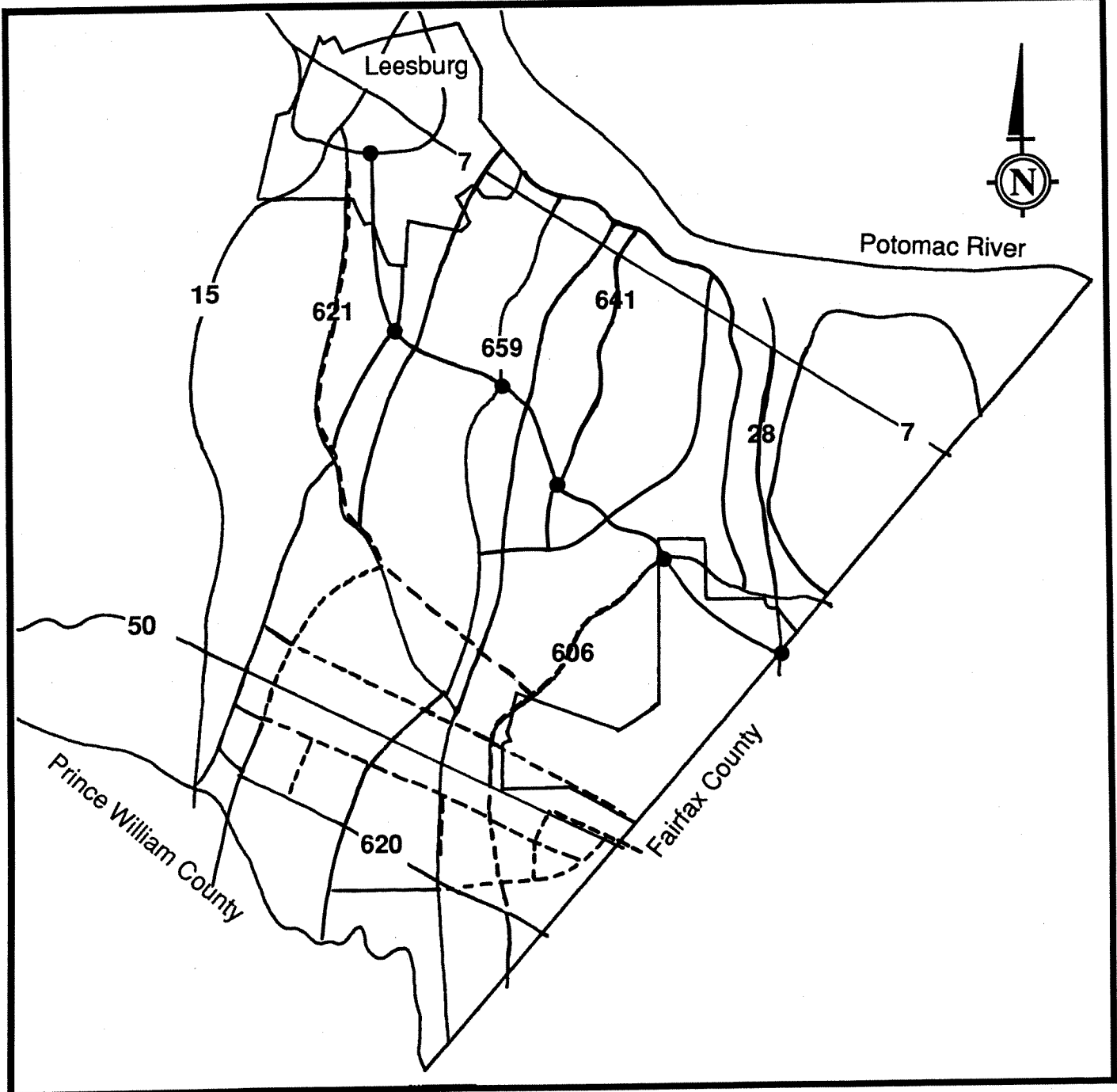
Policies

1. Transit planning for Dulles South will be linked to buildout levels.
2. Public transit facilities will emphasize park-and-ride lots and connecting bus service to other transit systems and employment centers.

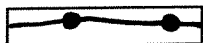
Rural roads in the planning area will be improved as development occurs.



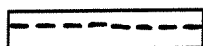
Dulles South Planning Area Conceptual Transit System Post 2010



Potential Rail Line



Potential Bus Line



Potential Rail Terminal



Dulles Corridor

Reston/Tysons Corner/Arlington/Washington D. C.

Route 50 Corridor

Fairfax/Fair Oaks/Vienna

Figure 11.

VI. Public Facilities and Services

Because the Dulles South Area is generally undeveloped and sparsely populated, the area does not contain the variety of public facilities and services found elsewhere in eastern Loudoun. With the exception of the Arcola Community Center, Arcola Elementary School, and the Arcola Volunteer Fire and Rescue Station, residents of Dulles South must rely on facilities in eastern Loudoun and Leesburg. Any significant development in Dulles South will require substantial capital facilities improvements and investment. To adequately meet the needs of current and future residents of Dulles South, the plan identifies the type and number of new services that would typically be required for the area based on projected development. In addition, the plan addresses when and where such facilities should be constructed and how the facilities will be financed.

Level of Service Policies

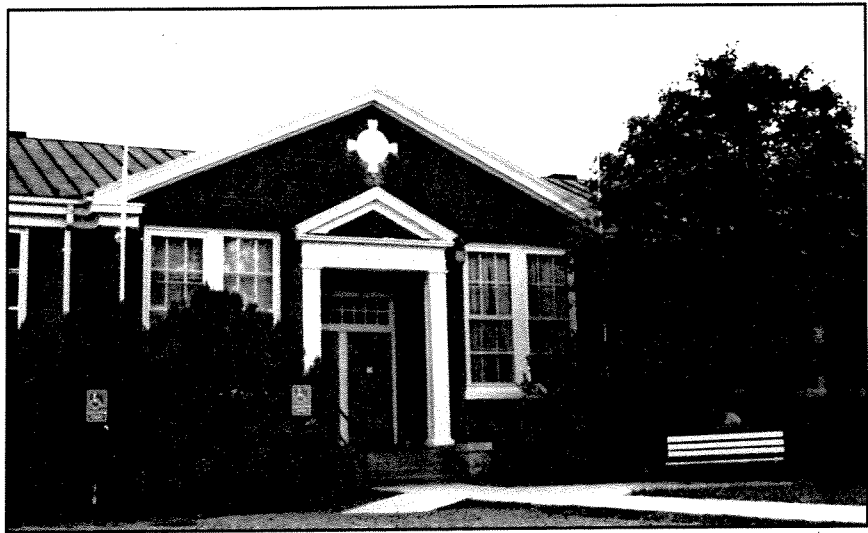
Loudoun County, like other jurisdictions, bases its plans for capital facility and service improvements on population and population projections. These figures are derived from projections about growth and development or from data showing that existing facilities are overcrowded or insufficient. Several County agencies have prepared service plans that propose standards for serving Loudoun's growing population. A few of these documents propose very specific guidelines for facilities linked to per capita population (i.e., the Library service plan includes a recommended number of books per capita) that can be translated into construction or land use requirements. Physical needs linked to various services are addressed in County land use plans so that these needs are taken into account in proffer guidelines and so that appropriate locations for particular facilities can be identified.

Citizens of the Dulles South area who attended the community workshops believe that their service needs have been overlooked and, in some cases, ignored completely. Citizens cited the need for schools, community centers, recreational facilities, and police and fire protection in particular. A number of citizens and members of the Dulles South Citizens' Committee felt that capital facilities should be related to what the community can afford. These citizens and the Committee also felt that the County's current service plans are based on unrealistic and excessive standards. For this reason, the Dulles South plan recommends that current County service plans be revised using more conservative service standards with the ultimate goal of reducing projected facility and service needs.

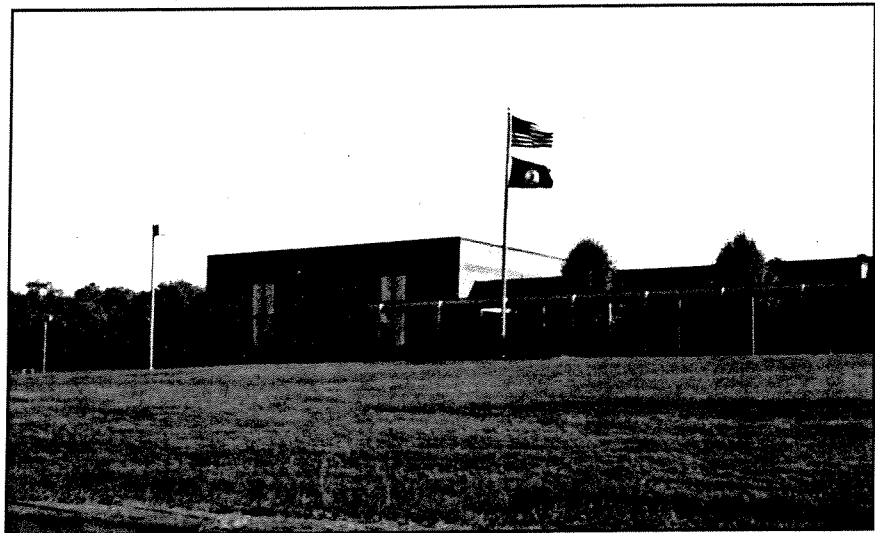
Policies

1. The standards for the level of capital facilities and service needs for the Dulles South area should be at least equal to service levels included in the County's most current service plans as endorsed by the Board of Supervisors. Where there is no service plan for a particular service or type of facility, the guidelines in Appendix C, page 89, shall apply.
2. The Board of Supervisors should re-evaluate the level of facilities and services proposed in current County service plans with a view toward downsizing and establishing a base level of service.

Arcola Community Center is an important focus for community activities.



Arcola elementary students in the Dulles South planning area attend Arcola elementary school.



Funding

The County anticipates that properties developed as commercial and/or employment/industrial will eventually generate sufficient revenues to pay for necessary public services since they generate very little in the way of capital improvement demands for services such as schools, libraries, parks, etc. New housing, conversely, generally fails to generate sufficient tax revenue to cover the operating costs of needed public services, and invariably imposes the need to construct new or expanded capital facilities. New development in Dulles South, and residential development in particular, will require substantial investments in infrastructure and capital facilities because very few services are available in the area today.

Up until the early 1980s, before the development boom, Loudoun generally paid for additional public service improvements through careful financial management, bonds, property taxes and inter-governmental transfers of funds such as state or federal revenue sharing. However, as non-local revenue sources have been either virtually eliminated or severely cut back, and as the development pace quickened, the County turned to alternative revenue sources to balance the demands associated with new development. The County has begun to share the fiscal burdens of new growth with the development community because, even in boom times, there are limits to fiscal prudence, borrowing, property tax increases and grants availability.

Supporting new development with all the necessary public facilities and utilities will require significant expenditures. The current and projected operational funding capabilities of Loudoun County, as well as, the Virginia Department of Transportation and other public agencies are and will be insufficient to provide new development with all the public facilities and utilities needed to support growth. Unfortunately, major delays in the provision of such facilities and services would seriously hamper the marketing, sales and revenue projections of the private development sector. Consequently, the County anticipates that the development community will cooperate with the public sector in the provision of public facilities and utilities which will be necessary to adequately service the growth anticipated in the Dulles South planning area and other growth areas in the County.

Over the past several years, the development community has assisted in offsetting the costs of growth through development proffers. Proffers are voluntary commitments which a developer makes to the County to assist in improving the public infrastructure needed to serve new residents or users of the development. The General Plan contains a specific set of proffer guidelines. The basic premise of the proffer guidelines is that the private sector should share in the costs of capital facilities improvements related to new growth. The guidelines recommend that the private sector fund 25% of capital facilities costs for units above 1.6 dwelling units per acre, excluding sewer, water and roads. The balance of the improvements would be funded by the County. The percentages are not intended to reflect a particular "magic" percentage. It is a qualitative, policy based figure rather than a quantitative figure. The percentages are intended to reflect the County's

commitment to being a partner in growth and development. The General Plan also states that proffer guidelines can be refined in area plans. In addition to proffers, the General Plan suggests that a variety of other innovative funding options should be explored as a means of financing capital improvements in developing areas.

Participants in the Arcola workshops expressed a range of opinions about how growth should be paid for. A number of participants felt that County and State revenues should continue to be the primary funding source for improvements. In addition, several citizens supported review of the 25% funding target specified in the General Plan proffer guidelines (the discussion included those that felt the percentage was too low and others who felt it was too high). Some citizens were concerned that proffers may lessen the affordability of housing and lessen service delivery. There were also suggestions that developers should pay for some types of facilities while others should be funded from other revenue sources. User fees were also suggested as a possible funding mechanisms. Taking into account these comments, as well as needs and priorities for Dulles South specifically, the following proffer guidelines are based on the General Plan, but refined to provide incentives for developers to assist existing homeowners in resolving public health problems associated with failing septic systems.

Policies

1. In accordance with General Plan policies, the County will encourage that the provision of public facilities and services be a joint effort between the public and private sectors through a combination of conventional funding sources, such as State and local tax revenues, and innovative funding mechanisms such as proffers, special taxing districts, and user fees.
2. Requests for residential rezonings at densities exceeding those permitted by existing zoning should include proposals for assisting in offsetting the capital facilities and service needs generated by the new development.
3. The County anticipates that all communities will be designed with appropriate public facilities and utilities such as adequate roads and utilities, recreational facilities, open space, and stormwater management facilities.
4. Capital facilities proffers in the Dulles South planning area shall be evaluated in accordance with General Plan capital facilities proffer guidelines.
5. Since public health is a priority in the Dulles South planning area, development proffers to construct additional public sewer and/or water lines to serve existing residences or businesses which would not otherwise have access to public sewer or water through the development process, will be credited toward Capital Facilities proffers. Where such credit is given, the developer must agree to waive LCSA reimbursement for that portion of the line (and the local facilities charge) and the LCSA will not charge a local facilities fee to residents.

Priority and Construction Policies

In more developed communities, a basic public facility and service network is often available to accommodate moderate growth. Roads and schools have excess capacity, parks are established and human services are available. In Loudoun, where development has occurred very rapidly in a short time, this is not the case. Dulles South lacks even a basic service framework for additional growth. Dulles North was similarly undeveloped until the mid-1980s when capital facility service improvements began as a result of development proffers. A similar pattern is likely to emerge as Dulles South develops.

Generally, new public facilities in developing areas of Loudoun are constructed as new communities are constructed. Obviously, certain types of infrastructure improvements (like sewer, water and certain road improvements) must be in place before the first house can even be built or the first new resident can move in. Certain recreational amenities (such as community pools or tennis courts) are often constructed early in the community's development process because these amenities are "selling points" that entice prospective purchasers. Land dedications for schools, parks or road improvements also frequently take place before development begins, although facilities may not be constructed for several years. Actual construction of facilities like schools depends on when the demand is sufficient to support the new facility and how and when the County budgets for major improvements.

Phasing improvements makes the costs of development more affordable (to the County and the developer/builder/homeowner) and ensures that facilities are not constructed before they are needed. However, phasing improvements can have negative effects as well. Public sentiment may be that the burdens of new development are felt before the benefits. For example, when improvements are phased, traffic may get worse on a particular road before the critical threshold for improvements is reached. School children may have to be bused out of their neighborhoods until enough houses are constructed to support a local school. These frustrations are often felt most acutely by existing residents of a developing area, like the current residents of Dulles South. Although development begins to occur, the benefits of growth may not be felt by existing residents until the new communities are well established.

Assessing public facility and service priorities in Dulles South is somewhat easier than elsewhere in eastern Loudoun since the area lacks even the barest framework of services. The Dulles South plan places top priorities on those facilities that provide essential services that cannot otherwise be obtained or that protect the health, safety and welfare of County residents. Public safety services would fall into this category. In the case of Dulles South, public sewer and water service to existing homes is considered a public health priority.

Policies

1. A full complement of public facilities and services will be provided in the Dulles South planning area. However, for the purposes of establishing a Capital Improvement Plan for the area, the following facilities and services are deemed priorities in the Dulles South region:

a. Immediate Priorities:

Adequate and safe methods of sewage disposal, as well as safe drinking water supplies, for individuals with failing on-site sewage disposal systems. Preferably this will be accomplished by providing access to central sewer and water lines; Public Safety: Fire and rescue sites and equipment as well as a site for a Sheriff's substation; or sites for schools, a regional park and a regional library.

b. Short Term Priorities: School construction (as population will support), sites for human service agencies (such as group homes, senior cafeteria, etc.), an additional community center, and additional park and branch library sites.

c. Long Term Priorities: Construction of local and regional facilities, park development and other facilities that will require a greater population base.

2. To serve as guide for determining when regional facilities and services should be included in the County's Capital Improvement Program budget, the County may establish "trigger" levels of population or dwelling unit construction which call for these facilities.

Location Criteria for Public Facilities and Services

Some types of public facilities such as neighborhood pools or tennis courts are sized and located for the convenience of a particular development. Other facilities, such as a high school, are sized to serve a region of the County or at least several different developments. To make service delivery more efficient and cost effective, certain facilities should be regional and others should remain local, depending on service or catchment areas.

The Dulles South Plan calls for every community or neighborhood to have local facilities that are the focal point of the community - an elementary school, recreational facilities or a community center. Larger facilities that depend on a larger client base should locate in close proximity to other regional facilities. If regional facilities are grouped, their area could begin to serve as a focal point for the entire region or planning area. A regional facility, or a group of regional facilities, should be located on major roads rather than local roads to provide better access.

To the greatest extent possible, the plan supports locating compatible or related facilities near each other to improve service delivery and minimize expenditures. Recreational facilities are often shared by the School Board and the Department of Parks and Recreation. Public safety services like

Fire and Rescue and the Sheriff's Department could share facilities as well. There are many examples throughout the County where public buildings and facilities serve multiple purposes.

Citizens of Dulles South generally supported the idea of multi-purpose, shared public facilities and the concept of public facilities as a focal point for new communities.

Policies

1. The County should expand cooperative efforts to share facilities by consolidating new, compatible public facilities and services in buildings designed to accommodate multiple functions.
2. The County Capital Improvement Program administrator should investigate the cost savings associated with the consolidation of libraries and compatible community center functions into a single building. The study should also investigate the feasibility of multi-story buildings.
3. Human services facilities such as libraries, mental health offices, senior cafe, and Health Department offices should locate in Neighborhood or Community Cores if they provide a service to the surrounding community or if the characteristics of the service (vehicular traffic, signs, structural scale, noise, etc.) are similar to, and compatible with, the general character of the adjacent area.
4. County owned or leased regional facilities such as high schools, Fire and Rescue stations, Sheriff's substations, and similar uses which provide a countywide or area-wide service and which include activities (traffic, noise, large parking areas) which are not compatible within residential neighborhoods, should be located in employment and business areas (including employment areas within residential communities). However, in the case of public safety services such as Fire and Rescue services, response times should also be a consideration in determining appropriate locations.



The Arcola-Pleasant Valley Fire and Rescue Squad is one of many volunteer companies serving Loudoun County.

5. Parks should be located where:

- a. They have direct access to a collector road. Parks should not have direct access to an arterial unless no other point of access is available.
- b. Trails and sidewalks connect the park to adjacent neighborhoods.

6. Schools and parks should be co-located.

7. Regional libraries and parks should be co-located.

Stormwater Management Facilities

Stormwater management will be an increasingly important issue in Dulles South as the area urbanizes. Unchecked stormwater run-off may result in the expansion of floodplains in downstream areas, and to erosion and pollution which degrade surface and groundwater supplies. As more land is paved for urban or suburban development, there are fewer opportunities for stormwater to be filtered naturally by moving through vegetated or forested areas.

Preservation of surface water quality is important in a regional context as well as a local context since a majority of the planning area is located in the Occoquan Watershed. The Occoquan Reservoir supplies water to approximately 600,000 residents of Fairfax County. In fact, in the early 1980s, Fairfax County downzoned a large portion of western Fairfax, located in the Occoquan Watershed, to protect water quality. In an effort to be a "good neighbor", the Dulles South plan addresses the issue of water quality protection through stormwater management.

To date, Loudoun County has relied on individual stormwater management facilities rather than regional facilities. However, in the late 1980s and early 1990s the County began to explore regional stormwater management options. Regional facilities offer a number of advantages over conventional, on-site facilities. Regional facilities are easier to operate, maintain and monitor since there are fewer of them. In addition, they provide assurances that an entire watershed is being addressed. The compound effects of many small ponds may actually aggravate problems downstream, particularly if they are not properly maintained. Regional facilities also provide advantages for community design and safety. A larger facility can be an amenity for a community and can be constructed with more inherent safety features (gradual grades as opposed to steeply sloping sides). For these reasons, the Dulles South plan recommends a regional approach to stormwater management

Existing farm ponds may become part of a regional stormwater management system.



Policies

1. The County recognizes the need for regional stormwater management facilities. A detailed study should follow adoption of this Plan and should include input from neighboring jurisdictions to address regional storm water management guidelines.
2. The County should support full enforcement of applicable Best Management Practices as they pertain to stormwater management.

Solid Waste Facilities

In 1989, Loudoun County conducted a solid waste study to determine how best to address the need for additional landfill capacity. In 1990, based on the results of the study, the County Board of Supervisors decided to expand the County's existing landfill to accommodate solid waste needs for the next 15 to 20 years. When the landfill location study was conducted in 1989 and 1990, the landfill consultants did not identify any suitable landfill locations in Dulles South. Proximity to the Dulles Airport and poor soils were primary constraints in locating a site in Dulles South. The Federal Aviation Authority (FAA) has strict policies about the location of landfills near airports since birds are attracted to landfills, posing a safety hazard to airplanes. Therefore, it is unlikely that a landfill can be sited in Dulles South in the future. An alternative to a landfill site is a resource recovery facility.

The level of development proposed for Dulles South will eventually require increasing the County's ability to handle solid waste. However, it is uncertain what type of facility would best address these needs or where a new facility should be located. Therefore, the Dulles South plan recommends further study to determine where, when and what type of new facility would be appropriate.

Policies

- 1.** The County will continue to investigate alternative and innovative solid waste technology. In recognition of projected needs, the County should prepare a solid waste study to determine the most appropriate method for addressing solid waste needs in Dulles South.
- 2.** If a solid waste facility, such as resource recovery plant, is deemed appropriate in the Dulles South area, the County will seek proffer assistance for such a facility as part of the land development process. Any such facility will be subject to the following locational and design criteria:
 - a.** The facility will have direct access to an arterial road without requiring industrial traffic to pass through residential communities;
 - b.** The facility will be sited in an industrial community;
 - c.** There will be adequate land available for an associated ash landfill and soil characteristics and other environmental features can accommodate an ash landfill without adversely affecting the region;
 - d.** The facility will not be visible from public streets and/or adjacent land uses;
 - e.** The facility will be sited and buffered to assure that there are no adverse effects (smoke, noise, odors) on surrounding land uses.

As the Dulles South changes from rural to urban, the county will need to address solid waste needs.

